Lectures
ON
MOLECULAR PHYSIOLOGY, PATHOLOGY, AND THERAPEUTICS,
AND THEIR
APPLICATION TO THE TREATMENT OF DISEASE.

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LECTURE VII.

GENERAL VIEW OF THE FUNCTION OF INNERVATION.

In a previous Lecture (Lecture IV.) I directed your attention to the structure and functions of the nerve tubes, and especially dwelt upon the property they possessed of conducting the influence of impressions in different directions, so that there resulted when these influences were carried to muscles, motion; when conveyed to the grey convolutions of the cerebrum, sensation; when conducted to the glands and textures, secretion and nutrition; and when sent to the bloodvessels, congestions and disturbances in temperature. I now propose speaking more particularly of the special functions of the cerebrum, cerebellum, spinal cord, and ganglionic system of nerves.

Cerebrum.—This portion of the nervous system consists of that mass of grey and white matter situated above and outside the *corpus callosum*, composing what are denominated the two cerebral lobes. In these the grey matter is external to the white, and has been appropriately named the hemispherical ganglion by Solly. It is arranged in the form of anfractuosities, whereby a large surface is capable of being packed in a comparatively small space. On carefully examining a thin section of this structure, prepared after the manner of Lockhart Clarke, and steeped in carmine, the white substance in the adult may be seen to be composed wholly of nerve tubes. These become more and more minute as they reach the grey matter of the convolutions, and are gradually lost in it. The layer of grey matter consists of a finely molecular substance, in which are imbedded minute nerve cells, varying in shape and size.

The cerebral lobes furnish the conditions necessary for the manifestation of the intellectual faculties properly so called, of the emotions and passions, of volition, and are essential to sensation. That the evolution of the power especially connected with mind is dependent on the hemispherical ganglion, is rendered probable by the following facts:—1. In the animal kingdom generally, a correspondence is observed between the quantity of grey matter, depth of convolutions, and the sagacity of the animal. 2. At birth, the grey matter of the cerebrum is very defective; so much so, indeed, that the convolutions are, as it were, in the first stage of their formation, being only marked out by superficial fissures almost confined to the surface of the brain. As the cineritious substance increases, the intelligence becomes developed. 3. The results of experiments by Flourens, Rolando, Hertwig, and others, have shown that, on slicing away the brain, the animal becomes more dull and stupid in proportion to the quantity of cortical substance removed. 4. Clinical observation points out, that in those cases in which the disease has been afterwards found to commence at the circumference of the brain, and proceed towards the centre, the mental faculties are affected *first*; whereas in those diseases which commence at the central parts of the organ, and proceed towards the circumference, they are affected *last*.

The grey matter, therefore, evolves that force or quality which is essential to mind, and the conditions necessary for this are evidently connected with its molecular and cell structure. The white matter, on the other hand, conducts the influences originating in, and going to, the grey matter. These may be said to travel in four directions—1st, outwards to the circumference of the body along the nerve tubes; 2nd, inwards and upwards to the hemispherical ganglion; 3rd, from one hemisphere to another by the commissures; and 4th, from the anterior to the posterior lobes, and *vice versâ*, by the so-called longitudinal fibres of the hemispheres. This power of conducting mental influences in various directions is probably subservient to that combination of faculties which characterizes thought.

By the term sensibility I understand the peculiar vital property possessed by nervous substance of conducting the influence generated by impressions made upon it. By sensation I understand the mental consciousness of such impressions. Now the experiments of Flourens, Hertwig, Longet, and others, have shown that on removing the cerebral lobes from animals, the mental faculties, including, of course, consciousness and volition, and therefore sensation and voluntary motion, are abolished, while the creature can stand when put on its legs, fly when thrown into the air, and walk when pushed. Hertwig has kept pigeons in this condition for three months, deglutition and all other reflex acts being perfect, the mental faculties only absent. Longet and Dalton have recently maintained that sensation may exist without the cerebral lobes. The former says, when the cerebrum was removed from a pigeon, and a light suddenly brought near its eyes, there was contraction of the pupil, and even winking. Further, when a rotatory motion was given to the candle at such a distance that no heat could operate, the pigeon made a similar movement with its head. But of these facts I would observe that the pupil will contract on the application of light when the eye has been cut out of the head, and a sunflower follows the course of the sun. It cannot, therefore, be said that under such circumstances the eye and the flower possess sensation or can see.

Dalton's description of what occurs after removal of the cerebrum is as follows: "The effect of this mutilation is simply to plunge the animal into a state of profound stupor, in which he is almost entirely inattentive to surrounding objects. The bird remains sitting motionless upon his perch or standing upon the ground, with the eyes closed and the head sunk between the shoulders. .....This state of immobility, however, is not accompanied by the loss of sight, of hearing, or of ordinary sensibility. All these functions remain, as well as that of voluntary motion. If a pistol be discharged behind the back of the animal, he at once opens his eyes, moves his head half round, and gives evident signs of having heard the report; but he immediately becomes quiet again, and pays no further attention to it. Sight is also retained, since the bird will sometimes fix its eye on a particular object and watch it for several seconds together. Ordinary sensation also remains after removal of the hemispheres, together with voluntary motion. If the foot be pinched with a pair of forceps, the bird becomes partially aroused, moves uneasily once or twice from side to side, and is evidently annoyed at the irritation."

From the observed facts Dalton concludes that "the animal is still capable, after removal of the hemispheres, of receiving sensations from external objects. But these sensations appear to make upon him no lasting impression. He is incapable of connecting with his perceptions any distinct succession of his ideas. He hears, for example, the report of a pistol, but he is not alarmed by it; for the sound, though distinctly enough perceived, does not suggest any idea of danger or injury. There is accordingly no power of forming mental associations, nor of perceiving the relation between external objects. The memory, more particularly, is altogether destroyed, and the recollection of sensations is not retained from one moment to another. The limbs and muscles are still under the control of the will, but the will itself is inactive, because apparently it lacks its usual mental stimulus and direction."

I think the facts may be interpreted differently and more correctly. The turning round of the animal's head on the explosion of a pistol, and many other movements, may be altogether reflex, dependent on irritations communicated to the cranial portion of the spinal cord through the tympanum. Again, that the pigeon should open its eyes with a vacant stare, or apparently fix them on an object, is no proof of sight. We constantly do these things ourselves with the brain entire, and see nothing. Lastly, that the limbs and muscles are under the control of the will, while the will is inactive, appears to be contradictory language. One of the most active operations of the will is to direct motion; and to say of a bird which flies away on the production of the slightest noise in health, but does not move on the discharge of a pistol, that in the latter case its limbs and muscles are still under the control of the

will, appears to be a most unfounded conclusion. The truth evidently is that there is no will, no sensation in such a case, any more than there is in a sensitive plant, which shrinks on being touched, but which surely cannot be said to exercise either the one mental faculty or the other.

With regard to the relation existing between mind and brain, two views are contended for: one, that the brain originates; the other, that it is only the instrument of thought. The discussion is metaphysical rather than physiological, because the phenomena observed in either case are the same, and these depend upon the structure and quality of the organ itself. In this respect the brain is exactly similar to a nerve or muscle. It possesses properties and functions which it is our duty to study. Why it does so we are ignorant, and are content to regard them as ultimate facts in our science. In the same way therefore that contractility is a property of muscle, sensibility of nerve, growth of tissue, and secretion of gland, so we regard thought as a property of the brain. But to avoid metaphysical subtleties, we are quite willing to say that it furnishes the conditions necessary for the manifestation of mind.

From the various facts now known, I think it may be concluded that the cortical substance of the cerebral lobes furnishes those conditions which are necessary for thought, including all mental operations, sensation and volition. I do not think that in the present state of science we are warranted in proceeding further, for the same facts entirely negative all those theories which have been advanced having for their object a localization of the different faculties into which the mind has been arbitrarily divided. Some have maintained that volition is seated in one place, memory in a second, sensation in a third, and so on; but we have no sufficiently extended series of facts to establish any of these or of similar propositions.

There can be no doubt that the relation between the molecular, nuclear, and cell elements of the hemispherical ganglion, as the instrument of mind, must be most important; and yet I am not acquainted with anyone, who, having first qualified himself for the task by a prolonged and careful study of histology, has investigated the brain in cases of insanity. Psychologists content themselves with repeating well-known clinical observations, with the ordinary morbid anatomy or density of the brain, and with the metaphysical speculations which have been pushed as far as, if not further than, human intellect can carry them. Need we feel surprised that the true pathology of insanity is unknown? What we desiderate is a careful scrutiny of the organ. Hitherto the difficulties of such an investigation have been insurmountable, in consequence of our imperfect methods of research. But let anyone possessing a competent knowledge of histology and the use of our best microscopes, with the opportunities our large asylums offer, only now dedicate himself to the task, and he may be assured that while extending the bounds of science he will certainly obtain an amount of fame and honour that few can hope to arrive at. The molecules on which muscular contractility depends are, as we have seen, visible molecules, and so I believe are those in the hemispherical ganglion, so essentially connected with the functions of the brain.

Cerebellum.—The ganglionic surface of the cerebellum is structurally altogether unlike that of the cerebrum. On looking at a well made vertical section of the former, prepared after the method of Lockhart Clarke, and steeped in carmine, under a magnifying power of 25 diameters, the fine tubular substance in the centre is seen to be bounded externally by a granular layer, outside which is a row of nerve cells with branched processes gradually terminating towards the margin of the exterior layer, which is finely molecular. On increasing the magnifying power to 250 diameters, we see more distinctly the relation of these various parts to one another, and recognise in the interior of each granule an included rounded body. According to Gerlach, these corpuscles are united to one another by a slender filament, which he has figured in a hypothetical diagram. Although such an appearance as he has imagined cannot be discovered in the natural structure, I have seen the tubes running between the granules, and traced them to the external margin of the granular layer. The external layer is the structure which demands the greatest attention. It is composed essentially of a finely molecular mass, containing numerous capillaries derived from the vessels of the meninges. Large ganglionic cells external to the granular layer send off branching processes externally, which are gradually lost as they proceed outwards. Both in the external, as well as in the internal granular layer, the basis of the texture is evidently *molecular*—a fact which hitherto has received far too little attention.

If the cerebellum be removed gradually from a pigeon in successive slices, there is progressive circumscription of the locomotive actions. On taking away only the upper layer there is some weakness and a hesitation in its gait. When the sections have reached the middle of the organ the animal staggers much, and assists itself in walking with its wings. The sections being continued further, it is no longer able to preserve its equilibrium without the assistance of its wings and tail; its attempts to fly or walk resemble the fruitless efforts of a nestling, and the slightest touch knocks it over. At last, when the whole cerebellum is removed, it cannot support itself even with the aid of its wings and tail; it makes violent efforts to rise, but only rolls up and down; then, fatigued with struggling, it remains for a few seconds at rest on its back or abdomen, and then again commences its vain struggles to rise and walk. Yet all the while its sight and hearing are perfect. The slightest noise, threat or stimulus, at once renews its contortions, which have not the slightest appearance of convulsions. These effects, first described by Flourens, have been confirmed by all experimenters, and occur in all animals. The results contrast very strongly with those of the much more severe operation of removing the cerebral lobes. "Take two pigeons," says Longet; "from one remove completely the cerebral lobes, and from the other only half the cerebellum; the next day the first will be firm upon its feet, the second will exhibit the unsteady and uncertain gait of drunkenness."

These facts induced Flourens to consider the cerebellum as the co-ordinator of motion, in which view he was supported by the late Dr. Todd and others. Foville, on the other hand, supposed it to be the seat of sensation, and argued that, as it is by means of this function that we regulate muscular motion, so, when it is destroyed, the faculty of perceiving the movements being lost, we cannot answer for their precision or duration. That it should be the seat of sensation generally is disproved by the fact that the animal is evidently conscious of impressions after its removal; but that it should be the organ of that peculiar sense, which has been variously called "muscular sense," "sense of resistance," and "sense of insight," is very probable. Accordingly we find that Professor Lussana, of Parma, has recently brought together all the arguments which exist as to this matter, along with numerous original observations, confirmatory of the view that the cerebellum does indeed regulate motion, but in consequence of its being the seat of the muscular sense.*

It has been suggested by Carpenter and Dunn that the corpus dentatum in the cerebellum is the ganglion which is connected with this sense, a view rendered improbable by Brown Séquard's analysis of cases where the organ was diseased. I submit that the function is seated in the external layers of grey matter rather than in the corpus dentatum—a theory to which the same objections do not apply. Mind frequently remains when portions of the hemispherical ganglion are injured, although we know of no instance in which, where the whole of it has been diseased, intellect has been preserved. So the co-ordinating motor power may remain when parts only of the cerebellar leaflets are destroyed, but is certainly lost when the whole grey matter is diseased. That the cerebellum, therefore, is connected with a special sense, through which it influences the co-ordinate action of the muscles, is a doctrine worthy the attention of physiologists. Its external layers of grey matter, constituting a complex ganglionic structure, has probably the same relation to the muscular sense as the hemispherical ganglion has to sensation in general.

The spinal cord has two portions—a cranial and a vertebral. The former consists of a chain of ganglia more or less connected with one another, as well as with the cerebrum above and the vertebral part of the cord below; the latter is composed of two lateral halves divided by an anterior and posterior fissure. Each half is subdivided into three columns—an anterior, middle, and posterior—by the two cornua of the central mass of grey matter. Through the centre runs the spinal canal, lined with columnar epithelium. The white matter of the lateral columns is composed of tubes, which, as shown by Lockhart Clarke, on being traced inwards from the spinal nerves, join the ganglionic cells in the grey matter, and, through them, keep up a communication—1st, with the opposite lateral columns; 2nd, with the cerebrum; and, 3rd, with the anterior and posterior roots of the nerves. The course of the conducting tubes, as pointed out by Clarke, shows that the views of Sir Charles Bell, though correct as to the functions of the roots of the nerves, were erroneous with regard to the columns of the cord. The few experiments Bell made on those roots confirmed the conclusions he drew from dissection. Had he experimented on the cord itself, he might have formed juster views. What he neglected, however, was performed by

* Journal de la Physiologie, tome v., p. 418, et seq.

Brown-Séquard, with the effect of demonstrating that a section of the anterior columns does not produce paralysis of voluntary motion, nor section of the posterior columns prevent conduction between the brain and posterior roots. To produce either of these results, the section must be continued into the grey matter. If two sections be made, however, midway between two neighbouring spinal nerve roots, then conduction between the parts above and below the sections is cut off. The explanation of this is to be found in the course taken by the nerve tubes as shown by Lockhart Clarke, which so diverge from one another, on passing into the cord, that no one transverse section of the column can divide them, although two at a certain distance from one another may. Thus histological research and experimental investigation support one another, and the two have now demonstrated that the conducting nerve tubes of the spinal roots of the nerves communicate through the grey matter of the cord, not only with the brain and the two sides of the body, but with each other.

These facts have served also to explain more fully the nature of those actions variously denominated automatic, reflex, and diastaltic, for the true knowledge of which we are indebted to the labours of Marshall Hall. It is now clear that the influences excited by irritation of nerves run continuously through the cord in certain directions, now communicating with muscles to produce spasms, and now with the glands and vessels to produce secretion and vaso-motor action, and this without any necessary connexion with the brain, and therefore without sensation.

The ganglionic system of nerves consists of numerous ganglia having connecting filaments, keeping up a communication with each other and with the cerebro-spinal centres. These communications are not direct, the various nerve tubes separating in a ganglion, and, whether they do or do not anastomose with nerve cells, on leaving it form a different combination of nerves. Hence every ganglion serves to break the conducting power of the nerves, or to modify it—probably both. In health we are not conscious of the actions of internal viscera principally supplied with these nerves, nor can volition act on muscular parts to which they are distributed. But let them be diseased, and they often excite excruciating yet peculiar pain, as in that caused by angina, by colic, or by a gall-stone. Again, mental emotions have a powerful influence on the contractions of the organic contractile tissue, as in palpitations of the heart, or as visible in bloodvessels on the production of pallor or of a blush. In the same manner mental emotions and desires act on the various glands, exciting or diminishing their action. Such results can only be explained by the connexion known to exist between these nerves and the spinal cord. The same phenomena may be produced by direct stimulation or by reflex action, each ganglion being a centre through which afferent and efferent nerves communicate,—the whole constituting an excito-nutrient and excito-secretory system, as has been well described by Dr. Campbell of the United States.*

The observations as to the effects of injuring the trunk of the ganglionic system, more especially in the neck, have excited the attention of numerous physiologists since the days of Petit in 1727, and more especially of Dupuy (1816). Breschet (1837), John Reid (1838), Biffi (1846), Budge and Waller (1851), and finally of Bernard and Brown-Séquard (1852). Bernard discovered the remarkable increase of heat which followed section of the nerve, and Brown-Séquard showed that cold was produced on applying galvanism to it. It is now recognised that if we cut the trunk of the sympathetic, heat commences in the neighbouring parts almost immediately, and will continue for weeks without producing inflammation, œdema, or other effect, so long as the animal remains in good condition. But if it falls sick, either spontaneously or in consequence of other operations, the nasal and ocular mucous membranes of the affected side become red and swollen, and secrete pus in great abundance. The inflammation of the conjunctiva described by Dupuy, J. Reid, and others, is therefore an accidental phenomenon produced by the debility of the animal, and may be avoided by giving it food and supporting its strength.

Thus in the same manner that when we irritate a sensitive nerve we excite motion through a motor nerve, or secretion and nutrition through the nerves distributed to glands or to the tissues, so we excite cold by irritating the ganglionic system of nerves, and heat by destroying their action or exhausting it. These phenomena are those of fever.

Doctrine of fever.—Fever is characterized first by diminution of temperature, and a feeling of cold succeeded by augmentation of heat. In intermittent fever this occurs rapidly, the whole phenomena at the longest occupying perhaps about six hours. In continued fevers it may last weeks. The effects of irritants on nerves are, first to excite, and then to suspend function. The first effect of the poison producing irritation in fever is to cause contraction of the vessels, palor and cold; subsequently it induces relaxation or paralysis of the vessels and heat. That is, a less amount of blood in the capillaries gives rise to a diminished exchange of chemical elements between it and the tissues, thereby occasioning loss of temperature, and a greater amount of blood increases this exchange, and elevates the temperature. We may therefore conclude that palor and a feeling of chill or rigor is indicative of excited or increased action of the organic nerves distributed to the vessels, whereas redness and a feeling of heat is a proof of diminished action in the same nerves. The poison therefore which enters the blood to produce fever, does so first by irritating, and subsequently impeding the functions of the ganglionic system of nerves. In the same manner that various poisons act on different portions of the nervous system, some on the brain, some on the spinal cord, and others on particular nerves, so the fever poison acts on the excito-nutrient and excito-secretory system. It resembles the operation of a narcotic in first stimulating or causing cold, and subsequently depressing or producing heat. Its influence also, when directed with greater force towards the cerebral, thoracic, or abdominal viscera, may serve to explain the peculiar forms and varieties of fever.

That certain eruptive fevers are communicable admits of no doubt; and it has been proved that the smallest particle of the virus may propagate in others its peculiar specific effects. Thus one drop of cow-pock matter rubbed down with an ounce of finely levigated sugar has given to the entire mass the property of communicating the poison in very small quantities. The same result has taken place by using the scab instead of a drop of purulent matter. Whether every minute granule of sugar under such circumstances is equally potent, or whether those granules only retain the power of communication as have attached to them a minute molecule of the morbid poison, has not been ascertained. Such propagating particles must be very minute, and capable of attaching themselves to rough substances, of floating in the air, or mixing with water. This is certain, that it can only be by a *molecular theory* of germs that the well-known facts connected with the increase and extension of epidemics can be accounted for. The action is a molecular action analogous to that of a ferment.

Action of quinine.—That quinine is a tonic I have long had reason to doubt. Quantities of this valuable drug appear to me to be annually wasted in administering it in all sorts of affections as a simple means of increasing appetite or communicating strength. I consider it a vegetable alkaloid, which, like others of its class, operates on special parts of the nervous system through the bloodvessels. Why it does so we are ignorant. That vegetable poisons do possess this influence constitutes an ultimate fact in the science of therapeutics. But in a similar manner to that in which opium operates on the brain, strychnine and hemlock on the spinal cord, and other drugs operate on other parts of the nervous system, so, I believe, quinine acts on the ganglionic system of nerves, controlling and diminishing those phenomena of fever which physiology has proved to be produced by their irritation or injury.

* Essays on the Secretory and Excito-Secretory System of Nerves, &c. Philadelphia: 1857.

ON

ASSIMILATION AND THE INFLUENCE OF ITS DEFECTS ON THE URINE.*

Being the Gulstonian Lectures of 1862, *delivered at the Royal College of Physicians, London,*

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SEEING, whilst conducting some experiments upon artificial digestion, that I got no effect from a specimen of commercial pepsine that I employed, I was induced by curiosity to ascertain the general character of the pepsine sold in our metropolis. I therefore personally procured pepsine from establishments in different parts of London—establishments that I considered specially entitled to our confidence from their old-standing and high

* Continued from vol. ii. 1862, page 615.

repute for respectability. According to the test I have employed, which I believe to constitute the most delicate test that can be used, only one out of the several specimens I obtained was possessed of any perceptible digestive property. I am bound, in fact, to say, from the evidence before me, that I have only yet met with one specimen of commercial pepsine that has been of any more digestive value than so much starch powder, which, be it observed, may be procured at a much lower cost when purposely purchased as such. Starch powder is, indeed, frequently, I might state generally, used as a diluent; but of this there is nothing to complain, so long as the price is regulated accordingly, and the preparation is endowed with efficient digestive properties.

Here are the results I have obtained on experimenting with the specimens of pepsine to which I have been alluding. I will remove the frogs' legs, which have labels attached to them to indicate the source of the pepsine employed. These shall be handed round, so that each may have an opportunity of examining closely the condition they are in. It may be desirable at once to state, that in all these experiments the external circumstances were identically the same. The bottles as you see them, with their liquid and suspended frogs' legs, were all introduced together into a water oven, the temperature of the interior of which was maintained at 110° Fahr., as shown by the use of a thermometer. At the end of four hours all the bottles were removed, and their contents were found in precisely the same condition as that in which they now appear.

Pepsine of Boudault procured from Mr. Squire's establishment. Dose stated to be fifteen grains. Sixty grains taken, and treated with two ounces of water and forty minims of strong hydrochloric acid. The frogs' legs present no evidence of digestive action.

Pepsine from Messrs. Savory and Moore. Dose stated to be ten to fifteen or twenty grains. Sixty grains taken, and treated with two ounces of water and forty minims of hydrochloric acid. The frogs' legs present no evidence of digestive action.

Pepsine from Mr. Morson. Here I was supplied with two specimens of pepsine. One was furnished to me as pure pepsine, or pepsine in the state obtained direct from the stomach of the calf; the other, the same diluted with starch. Twenty grains of the pure pepsine and forty grains of the diluted were taken, and treated each with two ounces of water and forty minims of hydrochloric acid. The frogs' legs in both instances offer no evidence of digestive action.

Pepsine from Messrs. Allen and Hanbury. English calf pepsine. Dose fifteen to twenty grains. Sixty grains were taken, and treated with two ounces of water and forty minims of hydrochloric acid. The frogs' legs present no evidence of digestive action.

Pepsine obtained from Messrs. Bullock and Reynolds. This I was informed was procured from the stomach of the pig, and the dose was stated to be from two to four grains. Twenty grains were taken, and treated with two ounces of water and forty minims of hydrochloric acid. The frogs' legs afford evidence of having been most energetically attacked, the portions immersed in the fluid being almost completely dissolved away.

In the experiment with the artificial gastric juice prepared in my own laboratory from an infusion of the dried mucous membrane of the pig, which I used in an early part of the lecture when speaking upon the nature of gastric digestion, the effects that you witnessed were produced by exposure for the same length of time in the oven alongside these bottles, containing the different specimens of pepsine to which I have just been referring.

At Apothecaries' Hall I was informed that only the pepsine obtained from Mr. Squire was kept. As I had already procured some of this direct from the person named, I did not think it necessary to experiment with that derived from a secondary source.

I may mention that with all these specimens of pepsine I have experimented before. The same quantities were taken, but only treated with an ounce instead of two ounces of water, and twenty minims instead of forty minims of hydrochloric acid in each case. The temperature ranged between 112° and 115°, and an exposure as long as eight hours was given. With Mr. Bullock's pig-pepsine the frog's leg was so much attacked at the end of two hours and a half as to be eaten through at the surface of the liquid; the muscles and bones also were thoroughly dissected out. With all the other specimens, at the end of the eight hours, there was not the slightest destruction of any portion of the surface, but the leg looked sodden; and when pinched with the forceps, easily gave way. The bones were also soft and flexible. An acidulated infusion of the small intestine of a dog, however, had been experimented with at the same time, and the effect on the frog's leg was identically the same, the limb being swollen and sodden, and easily crushed with the forceps; the bones also were soft and flexible—an effect doubtless produced by the presence of the acid.

Now pepsine is an agent which, from what I can hear, has a most extensive—an increasing demand; and it is at the same time only to be purchased at considerable cost. Having witnessed the results that I have disclosed, I did not think it right to keep the information to myself, and allow the members of the medical profession to continue blindly prescribing as a remedy a material, according to my test, so completely devoid of really effective properties, as, with only the single exception, all the specimens of pepsine that I have examined have proved. As physicians, in our combat against disease we do not personally handle or systematically test the efficiency of the weapons we employ. We know what ought to be the properties of our various instruments; but if these instruments should prove false, how is it to be expected that they can stand when real service is required of them. Looking to the dependence we have to place upon the proper efficiency of the drugs we prescribe, really the position we occupy cannot be regarded, upon reflection, as otherwise than an anomalous one. I cannot learn that there is any system at the present day in operation by which, as a body, we take interest in securing the proper efficacy of that which, with our reputations at stake, we order to be dispensed to our patients. In our relation as a professional body with the public, we ought not, I hold, to consider our duty at an end when the prescription is given. We are looked upon as responsible for the result in the conduct of our case. We investigate and find out the nature of the complaint, and afterwards order the appropriate treatment. But what is the use of all this if we take no concern towards securing the proper efficiency of that which is supplied. A want of proper efficacy in the materials dispensed may bring upon our shoulders as much discredit amongst the public as an error in diagnosis, or a mistake in treatment. As we labour amongst ourselves to improve the science of our art, so ought we not to forget that for the successful practice of our art something besides attention to science is needed to give our profession the status it ought to enjoy. How, for instance, it might be justifiably asked, could anything but faith, implicit faith, on the part of our patient, have effected any good, where specimens of pepsine such as these, whose want of digestive power we have seen, were prescribed?

In these remarks that I have made I wish it to be distinctly understood that I do not for a moment impute an improper motive as having led to the state in which, with the one exception, all the samples of pepsine I have procured were found. The well-known respectability of the establishments whence these samples came is a sufficient guarantee that their ineffective state was as unknown there as amongst the members of our profession who may have been prescribing them. Such slight causes are sufficient to lead to the destruction of the digestive principle, that the production unwittingly of a useless material is easily to be accounted for.

I have lately been conducting some experiments on this point which show how easily the digestive power of pepsine may be lost. Two specimens of an infusion of the dried pig's stomach, possessing properly active properties, were taken, and the temperature of the one raised until it reached 130° and the other 140°. They were afterwards acidulated with the usual quantity of hydrochloric acid and exposed for four hours alongside each other in the water oven, at a temperature of 110°, a frog's leg having been introduced into each. In the specimen the heat of which had only been raised to 130° the frog's leg was digested away. In the other, the skin and muscles were only very slightly acted on at the surface.

A rich infusion of the mucous membrane of the stomach was, in another case, taken with the view of drying in the vacuum of an air-pump. A considerable time elapsed before the drying was complete, and there was evidence, during the process, of putrefaction taking place. Eight and a half grains of the dried extract left were treated with one ounce of water and twenty minims of hydrochloric acid. A frog's leg was introduced, and exposure to a temperature of between 112° and 115° given. At the end of five hours there was no effect externally perceptible; at the end of eight hours the muscles were found exposed and dissected out, but the form of the leg remained. In another instance, however, where an infusion of the stomach had been under the receiver of an air pump for a fortnight, and had been reduced to a viscid state, although smelling pretty strongly from decomposition, it still manifested signs of possessing energetic digestive properties.

According to my experience, the easiest way of procuring an artificial digestive solution is to simply dry the stomach of an animal, and make an infusion of it whenever required, treating it with the requisite amount of acid. Where the stomach is thin, it may be cleansed with water and taken entire; but where, as in the case of the pig, the stomach is exceedingly thick, I strip away the mucous membrane from the muscular layer, and, spreading it out, allow it to dry spontaneously, or at a suitable distance from a fire. Cut into shreds, it may be preserved in a convenient form for use. Upon one occasion I experimented with different quantities of the dried mucous membrane thus obtained from the stomach of a pig. Twenty, ten, and five grains were taken, and treated respectively with one ounce of water and twenty minims of hydrochloric acid. Frogs' legs being introduced, they were all exposed together to a temperature of 115°. At the end of an hour and three quarters, the twenty- and ten-grain specimens had produced strong marks of action upon the skin. In three hours, all three specimens had led to the muscles being dissected out and the bones exposed. In eight hours all the legs were amputated at the surface of the liquid, and, with the exception of a few small fragments, had entirely disappeared. The quantity of pure pepsine, then, required for digestion is very minute.

Before I finish with the stomach as connected with primary assimilation, there is one other point I cannot refrain from touching upon—the immunity from digestion which the organ itself enjoys during life: a subject, I believe, that could not elicit from us a more profound consideration than it really deserves. The position is this:—The stomach receives in its cavity materials constituted like its own parietes. The materials are dissolved or liquefied, whilst the stomach itself remains intact. What, it may be asked, is the explanation of such an elective result? A vessel is used holding a material identical with itself whilst a process of solution is being accomplished: the one is dissolved, and the other is not. For instance, say a vase of marble has fragments of marble placed in it to be dissolved by an acid, and the fragments disappear, whilst the vessel remains intact. What can be brought forward satisfactorily to account for the immunity which, under such circumstances, the stomach enjoys? It was our countryman, John Hunter, who first directed attention to this point. In his communication published in the "Philosophical Transactions" for 1772, entitled "On the Digestion of the Stomach after Death," he remarks that in occasional instances, especially in persons who have died of sudden and violent deaths, on making an inspection of the body, the great extremity of the stomach is found so dissolved as to have allowed of the escape of its contents into the abdominal cavity. He also notices that, although a perforation of the stomach may not be observed, yet there are very few dead bodies in which the stomach is not at its greater end in some degree digested; this partial digestion being indicated by a thinness and transparency of the membranes, and by the blood which the vessels contain passing out at their digested ends when pressure is made from the larger towards the smaller branches, and appearing like drops on the inner surface.

The greatest extent of solution being observed in cases where the individual had been in the enjoyment of perfect health up to the moment of death, Hunter inferred that the phenomenon could not be the result of disease during life, but must be owing to an action exerted by the digestive fluid after the occurrence of death. If, then, the stomach were thus susceptible of being digested by its own secretion after death, the question immediately arose—What afforded it immunity from undergoing the same process of digestion during life? To Hunter it was the "living principle" that formed the required source of protection. To use his words, "The stomach, which at one instant—that is, while possessed of the living principle—was capable of resisting the digestive powers which it contained, the next moment—namely, when deprived of the living principle—is itself capable of being digested, either by the digestive powers of other stomachs, or by the remains of that power which it had of digesting other things." In illustration he says, "If it were possible for a man's hand to be introduced into the stomach of a living animal and kept there for some considerable time, it would be found that the dissolvent powers of the stomach could have no effect upon it; but if the same hand were separated from the body and introduced into the same stomach, we should then find that the stomach would immediately act upon it."

I have before me preparations of human stomachs belonging to the museum of Guy's Hospital, where considerable-sized deficiencies exist, the result of gastric solution. The same condition is easily produced artificially with the lower animals. Under ordinary circumstances, although it is common to find the inner surface at the cardiac extremity bearing more or less evidence of attack by digestion, yet I think I have never witnessed that an actual perforation has taken place. If, however, when an animal has been killed during digestion, the temperature be afterwards maintained artificially, the result is far otherwise. With this stomach, which has been derived from the pig, the animal was killed whilst the organ was full, food having been purposely administered a few hours previous to death. The stomach, being simply removed with its contents, was suspended, by means of a string tied around its œsophageal and pyloric openings, in a large preparation glass, and exposed to a temperature of about 100°. Its contents were found some hours afterwards at the bottom of the glass, and upon looking at the organ itself there is an enormous rent which was produced by gastric solution.

I have here also a rabbit, in which the most extensive ravages have been produced by the digestive action of the gastric juice. The animal was killed about four hours after the ingestion of food. Its body was then placed in a warm situation, so that its temperature was maintained for several hours (about ten or twelve) quite equal to, or beyond that belonging to life. On opening the animal, the view displayed was truly remarkable. The stomach had completely disappeared, and its contents were dispersed over the peritoneal cavity; a portion of the liver was attacked and dissolved away; the greater part of the diaphragm was gone, and the ribs on the left side (the animal had been laid on this side) bared or completely dissected out; the gastric juice escaping from the chest, the flesh about the neck and upper extremity on the left side had been acted upon, and was in a state of disintegration, so that the slightest force was sufficient to pull the parts asunder. It is truly astonishing the effect produced under these circumstances by the solvent influence of the gastric juice.

ON THE

ACTION OF THE HYPOPHOSPHITES OF SODA AND LIME,

THE SO-CALLED "SPECIFIC" FOR TUBERCULAR DISEASES.

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In a paper read by Dr. Churchill before the Académie Impériale de Médecine in the year 1857, it is confidently stated that "the immediate cause, or at least an essential condition, of the tubercular diathesis consists in the diminution in the system of phosphorus in an oxydizable state," and that "the *specific* remedy for this disease is a preparation of phosphorus at the lowest possible degree of oxydation." Now, although such a statement was not based upon either chemical, physiological, or pathological investigation, but was purely hypothetical, yet I thought it might be desirable to test the efficacy of Dr. Churchill's treatment, and to publish the results, which, alas! were very uncomplimentary to the new "*specific*."* Dr. Churchill, however, having complained that this trial of his new remedy was of insufficient duration, I have thought it but fair to repeat the experiments, and at the same time to explain that the sole cause of the brevity on the former occasion was due to Dr. Churchill's own statements. We were informed in his paper that "even *from the first day* of taking the hypophosphites they produce a manifest increase of nervous power, together with an unusual feeling of comfort and strength: the appetite increases, the perspirations cease, sleep becomes calm and profound," &c. Now, as I failed to observe any such consequences in any one of my patients within two, or at most three, weeks of their taking the hypophosphites, I considered that it would be unjustifiably trifling with the disease to give a longer trial to the treatment.

Shortly after this, my colleague, Dr. Quain, published in THE LANCET the results of a far more elaborate series of experiments with the hypophosphites,† and came to the conclusion that

* Medical Times, Feb. 13th, 1858.

† THE LANCET, March 17th, 1860.

they were "comparatively, if not absolutely, useless;" adding that he had known "much time thrown away by substituting the use of these salts for remedies of undoubted efficacy in controlling the progress of phthisis."

Dr. J. Risdon Bennett has also tried the hypophosphites in some carefully made experiments, and came to the conclusion that they had "no specific nor anti-tubercular action, no special influence being exerted by them on any one function of the body."*

My recent experiments with the hypophosphites were made upon twelve of my own in-patients of the Consumption Hospital. These were selected, as will be seen, on account of their presenting nearly every possible condition both of the disease and of the circumstances of treatment. Two were unpromising cases, but most of them were promising; some had already improved under treatment; whilst in others no previous remedies seemed to have had much effect. In fine, I sought, in as complete a manner as possible, to ascertain whether the much-vaunted hypophosphites deserved what had been claimed for them, the title of "specific."

In order to avoid any possible doubt as to the purity of the hypophosphites with which I experimented, I applied to Mr. Swann, of the Rue Castiglione, Paris, the acknowledged maker of Dr. Churchill's phosphatic salts, who most obligingly and gratuitously forwarded a large case of them for trial at the Consumption Hospital.

In accordance with Dr. Churchill's directions, a tablespoonful of the syrup of the hypophosphite either of soda or lime was administered twice and sometimes thrice a day. Notes of the cases were regularly taken by Dr. Rutter, resident clinical assistant at the hospital.

Before making any general comment upon the treatment, I shall give, as briefly as possible, a sketch of the twelve cases.

CASE 1.—*Phthisis, third stage; disease advancing under general tonics; hypophosphites three weeks; no change in symptoms.*—R. B——, aged twenty one, gardener, admitted Sept. 15th, 1862. Has been in ill health two years; cough severe; hæmoptysis twelve months ago; much emaciated; pulse 100; digestive organs healthy.

The *physical signs* denoted the first stage of tubercle on the right, and the third stage on the left side; the percussion under the right clavicle being dull and the respiration harsh, whilst under the left clavicle there was gurgling rhonchus with cavernous breathing.

Treatment.—For two months after admission, steel, quinine, and other tonics, with cod-liver oil, were successively tried, but with no good effect, the patient gradually losing both in health and weight. Half an ounce of the syrup of hypophosphite of soda was then given twice a day for ten days, when diarrhœa came on, and the medicine was temporarily discontinued. It was afterwards tried for another ten days without any good result. No change occurred in any of the symptoms under the use of the hypophosphite; there was no improvement either in the appetite or strength, and the patient left the hospital with the disease advancing.

CASE 2.—*Phthisis, first stage; disease advancing under the use of mineral acids, tonics, and cod liver oil; hypophosphites four weeks; no improvement.*—R. R——, aged thirty-two, coachman, admitted Sept. 15th, 1862. Has been getting thinner for several months; severe cough with frequent hæmoptysis—"spat up one pint three months ago;" great expectoration; no night perspirations; bowels natural; pulse 96.

The *physical signs* were, harsh respiration with creaking under the right clavicle; and weak respiration, with prolonged expiration, under the other clavicle.

Treatment.—During nine weeks the mineral acids and gentian, quinine, and cod-liver oil had been given unsuccessfully, the patient only becoming worse. Half an ounce of syrup of hypophosphite of soda was then given twice and subsequently three times a day, and continued for four weeks, without any sensible change in any of the symptoms; the patient, on leaving the hospital, expressing himself as unrelieved, "the cough as bad as at first, and the breath shorter than ever."

CASE 3.—*Phthisis, first stage; hypophosphite of lime four weeks, followed by steel for six weeks; hypophosphites again for three weeks; considerable improvement both in local and general symptoms.*—T. M——, aged thirty-six, labourer, admitted Nov. 1st, 1862. Has been out of health and getting thinner nine months; cough frequent and severe; breathing short; hæmoptysis seven months ago; appetite bad; pains at epigastrium and between shoulders; digestive organs feeble; pulse 96. Father died of phthisis. Has lived very poorly, seldom tasting meat.

Physical signs.—Respiration harsh and expiration prolonged, with moist sub crepitant rhonchus under the right clavicle.

Treatment.—Half an ounce of the syrup of hypophosphite of soda was given, at first twice, and shortly afterwards thrice, a day for four weeks, together with full diet and porter. At the end of this time the patient felt much stronger and better, and had gained seven pounds in weight, although he still coughed and suffered from dyspnœa. Fifteen drops of the tincture of sesquichloride of iron in water were then given twice a day for six weeks, during which time he continued to improve and gained two pounds more in weight. The hypophosphite was then resumed for three weeks, with continued improvement, but no further increase of weight. The patient was now greatly relieved; his health and strength fairly restored; his cough had disappeared, together with all secretion-sound in the right lung. On being questioned as to which medicine had done him most service, he said he had "felt as well under one as the other." It appeared to us all, indeed, that the change from farm-work and scanty diet to the rest and good living at the hospital was the main cause of this poor man's improvement.

CASE 4.—*Phthisis, first stage; hypophosphite of lime three weeks—no improvement; steel for three weeks—slight improvement; hypophosphite again for three weeks—no improvement.*—T. T——, carpenter, aged twenty-three, admitted Oct. 9th, 18 2. Severe cough for twelve months; emaciation; hæmoptysis some weeks back; nausea and loss of appetite; dyspnœa; night perspirations; pulse 104. Brother died of phthisis.

Physical signs.—Harsh respiration, with sub-crepitant rhonchus under right clavicle; blowing and harsh respiration under left clavicle.

Treatment.—Half an ounce of syrup of hypophosphite of soda twice and afterwards thrice a day; and, for the cough, a small dose of syrup of morphia occasionally. This was continued for three weeks without alteration in any of the symptoms, and it was evident, both from general and physical signs, that the disease was steadily advancing. Ten minims of the tincture of sesquichloride of iron, with some cod-liver oil, were then given three times a day for three successive weeks, at the end of which time the patient expressed himself as being "better altogether since taking the new medicine." As, however, no very marked improvement seemed to exhibit itself, the hypophosphite was resumed for three weeks, when, the patient feeling that he was gaining but little by residence in the hospital, wished to be discharged. Upon being asked which medicine suited him best, he unhesitatingly said, "the steel."

CASE 5.—*Phthisis, third stage; hypophosphite of soda five weeks—great improvement; hypophosphite exchanged for a mixture of carbonate of soda with syrup for four weeks—continued improvement.*—E. C——, servant girl, aged seventeen, admitted Nov. 3rd, 1862. Ill ten months with cough; dyspnœa on exertion; occasional hæmoptysis; appetite bad; is very low and feeble; pulse 100. Sister died of consumption.

The *physical signs* denoted a considerable cavity at the apex of the right lung, with tuberculosis in its first stage at the apex of the other lung.

Treatment.—Half an ounce of syrup of hypophosphite of lime twice a day, to which was added, on account of the severity of the cough, a sedative mixture composed of chloric ether and morphia. After taking this for five weeks, there was a manifest improvement; the cough had diminished, the health was better, and the patient had gained over two pounds in weight. The hypophosphite was then changed for a mixture composed of two scruples of carbonate of soda, three ounces of syrup, and five ounces of water, which was continued for a month, when the patient was discharged, greatly improved in all respects, and having gained altogether five pounds in weight. No falling off was observed when the hypophosphite was discontinued, the general improvement persisting, and the patient failing to discover the change. In this case, rest, hygiene, and good diet probably deserve the chief credit; but it is very likely that the simple alkali, whether combined with the hypophosphorous or carbonic acid, was not an unimportant auxiliary by producing some salutary effect upon the organs of digestion.

CASE 6.—*Phthisis, first stage; hypophosphite of lime seven weeks—improvement; steel two weeks—falling off; a mixture composed of syrup and carbonate of soda for four weeks—renewed improvement.*—L. C——, servant, aged thirty-one, admitted Oct. 3rd, 1862. Out of health twenty months; cough; no hæmoptysis; loss of weight; dyspnœa on exertion; digestion

* Medical Times, April 27th, 1861.

good; catamenia absent seven months; pulse 80; no hereditary predisposition.

Physical signs.—Respiration weak, with abundant sub-crepitant rhonchus at apex of right lung; respiration blowing, with sub-crepitant rhonchus at apex of left lung.

Treatment.—Half an ounce of syrup of hypophosphite of soda was given twice, and subsequently three times a day, with cod-liver oil twice a day, as she had taken this before admission, and was unwilling to discontinue it. Full diet and ale. All this was continued for seven weeks, during which time the patient steadily improved, losing the cough, and gaining four pounds in weight. Ten minims of the sesquichloride of iron was then taken for a fortnight, but it appeared to disagree and occasion headache. A mixture, composed of carbonate of soda, syrup, and water, undistinguishable from the syrup of the hypophosphite of soda, was then taken for a month, during which time the patient improved greatly, both in her general and pulmonary symptoms, and believed she was taking the medicine as first prescribed. She then left the hospital, calling herself "quite well," and having gained six pounds in weight. The repose, comfort, and good living of the hospital unquestionably effected much in this patient. She would not bear steel, and evidently required a more simple treatment; but not the slightest difference was observable, whether she was taking the *hypophosphite* or the *carbonate* of soda.

CASE 7.—*Phthisis, first stage; hypophosphite of soda six weeks—no improvement; steel six weeks—slight improvement.*—M. A. H——, aged nineteen, servant, admitted Nov. 13th, 1862. Ill several months with cough; loss of appetite; losing much flesh; occasional streaky hæmoptysis; sputa scanty, mucous; catamenia regular; pulse 90. Mother died of phthisis.

The *physical signs* denoted the first stage of tuberculosis in the left lung, the percussion being quite dull under the clavicle, and the respiration there being weak and harsh, with abundant sub-crepitant rhonchi.

Treatment.—Half an ounce of syrup of hypophosphite of lime twice, and subsequently three times a day, with liberal diet, and beer. At the end of six weeks no improvement had taken place, and there had been no increase in the weight. Ten minims of the tincture of sesquichloride of iron, with the same quantity of chloric ether, in a little water, was then prescribed, and taken three times a day for six weeks, during which time there was a decided improvement in the general symptoms. The patient was then discharged, calling herself "better," but without any improvement in the physical signs. In this case the hypophosphite signally failed, no amelioration, nor indeed any perceptible change, having occurred in any of the symptoms during its administration.

(To be concluded.)

A Mirror
OF THE PRACTICE OF
MEDICINE AND SURGERY
IN THE
HOSPITALS OF LONDON.

Nulla est alia pro certo noscendi via, nisi quam plurimas et morborum et dissectionum historias, tam aliorum proprias, collectas habere et inter se comparare.—MORGAGNI. *De Sed. et Caus. Morb.*, lib. 14. Proœmium.

ROYAL FREE HOSPITAL.

SYMPTOMS OF ACUTE INTESTINAL OBSTRUCTION FOLLOWED BY DOUBLE PNEUMONIA; PERFORATING ULCER OF THE ANTERIOR WALL OF THE STOMACH; CLINICAL REMARKS.

(Under the care of Dr. COCKLE.)

A GERMAN housemaid, aged twenty-nine, single, well-formed and moderately well-nourished, of light complexion but not anæmic, was brought into the hospital on the afternoon of the 16th of March. Having been in her last situation but a fortnight, little was known by those who brought her respecting the general state of her health. It was remembered, however, that she had complained at times of pain in the chest. On the Friday previous she had taken some opening medicine in consequence of the bowels not having acted—an occurrence very uncommon with her. The same night she was seized suddenly with violent pain in the stomach, and vomiting. The whole abdomen soon became swollen, and very tender to the touch. The practitioner who saw her at this juncture, so far as could be ascertained, prescribed calomel and opium, followed by castor-oil and injections. No action of the bowels, however, could be obtained.

At the time of her admission into the hospital, the face was most anxious, expressing great prostration; the abdomen excessively painful, tender, and much meteorized, the pain being described as most acute towards the left hypochondriac region; vomiting was frequent and soon became markedly stercoraceous (feculent fluid); no blood could at any time be traced in the ejected matters; the tongue was dry, and the thirst extreme; there was frequent tenesmus, without the power to effect a passage through the bowels, now without action for four or five days; the bladder was irritable; the pulse small and quick, ranging 130 per minute; respiration somewhat hurried, simply superior thoracic; skin hot and dry; cerebral functions very slightly exalted, probably the effect of opium; pupils moderately contracted, but responsive to the stimulus of light.

The ordinary seats of hernia were carefully explored, as also the vagina and rectum; but such examination failed to reveal the cause of the symptoms. The extreme tenderness and meteorism prevented any minute examination of the abdomen proper. To meet the emergency of the case, so far as practicable, small bits of ice were given frequently, half a grain of solid opium every second hour, and the entire abdomen covered with a linseed-meal poultice.

On the following day there was but little change in the condition of the patient. To gain an approximative notion as to the height at which obstruction might exist, tepid water was slowly injected into the bowel. About one quart was borne a few minutes, without distress. A portion was then ejected, mixed with highly offensive fluid of the consistence of gruel. Soon afterwards a natural evacuation passed in a semi solid state, and at short intervals seven or eight others, the last three being fluid and of a similar character to that brought up by vomiting. Within a few hours from these discharges the most marked amelioration occurred in the more important of the general symptoms: the sickness entirely ceased, and the pain and meteorism very considerably abated; but the left hypochondrium was still the most painful part.

Careful examination of the abdomen now detected circumscribed but extremely well marked swelling and resistance in the right ileo cæcal region. The entire abdomen was still kept covered with linseed-meal poultice; opium continued, but at longer intervals; and small quantities of mild nourishment allowed.

This lull of the abdominal symptoms continued during the three succeeding days; nor, indeed, was it subsequently interrupted. The face, notwithstanding, retained its anxious and distressed expression; the pulse kept weak and rapid; and the tongue, mouth, and lining membrane of the cheeks became gradually coated with a species of aphthous eruption, which rendered it difficult for the patient to articulate. A slight but troublesome cough now supervened, with mucous râle audible at some distance, but the patient had no power to expectorate. Small quantities of wine and ammonia were given. On the fourth morning from the cessation of the more acute abdominal symptoms, the breathing became suddenly excessively difficult, the cheeks being deeply flushed with the cyanotic tint of the surrounding skin and lips. The midday physical examination detected entire solidification of the base of the left lung, and progressive solidification of the base of the right lung. Death occurred at seven P.M.

The autopsy was made by Mr. Hill, who had most carefully watched the progress of the case. The following are his notes:—The head was not examined. Chest: Slight effusion into the pericardial sac; heart very flabby and readily lacerable; lower two-thirds of the lower lobe of the left lung perfectly solid, heavily sinking in water; the base of this lung adherent to the diaphragm by a thick layer of recent lymph; the lung was readily detached without injury to its substance; the base of the right lung extremely congested, semi solid portions partially sinking in water; much pleuritic adhesion of the middle lobe. Both the lungs were extremely œdematous in the upper portions, pitting on pressure, and large quantities

of frothy fluid escaping from the air-cells on section. There was no free effusion in the pleural sacs; neither did tubercles exist in either lung. Abdomen: The liver was large and congested, the left lobe extending as far as the spleen. The entire organ was universally adherent above to the diaphragm by recent thick lymph. A large sac, walled by false membrane, and filled with pus and stomach contents, was situate between the lobes of the liver and diaphragm, pushing the latter septum upwards between the anterior and middle mediastinum. There was depression from condensation of tissue of the surface of the left lobe of the liver, which occupied about two inches square of its upper surface, and extended over its margin to the under surface. This depression corresponded to, and formed part of, the boundary of a sac formed by thick false membrane, containing pus, and, apparently, stomach contents, which communicated with a perforation of the stomach. The posterior boundary of this sac was the lesser omentum; the remaining portion of the anterior boundary false membrane, extending between the free margin of the left lobe of the liver and the anterior surface of the stomach. A perforating ulcer of the stomach was seen on the anterior surface of the organ at its pyloric end, and just below its lesser curvature. The perforation was about the size of a sixpence, and as round; its outer margin was clean, as if punched out; internally, the surface was of terraced appearance, the outermost and largest layer being the mucous membrane, next the muscular coats, and last the peritoneal lining. The mucous membrane was thickened in patches around from exudation, and into some of the patches there had been capillary hæmorrhage. No other ulcers or cicatrices existed, either in the stomach or duodenum. The pyloric valve offered less resistance than usual. The pancreas was large and much indurated, cutting with the resistance of scirrhus. The spleen, apparently unaltered, was enclosed between the diaphragm, left lobe of the liver, and gastro-splenic omentum by false membrane. A large quantity of purulent fluid was also present. The whole of the intestines adhered together, and to the mesentery and omentum by means of thin recent lymph. The vermiform appendage was also intimately attached to the cæcum by the same agency. A large sac, formed by thick false membrane, and filled with pus and, probably, stomach contents, extended between the rectum and vagina; another sac of the same character occupied the right iliac fossa. No free effusion whatever had taken place into the peritoneal sac. The kidneys, uterus, and ovaries were healthy.

Had the previous history of the patient been better known, it is possible that a more correct opinion of the nature of her malady might have been formed. In default of such knowledge, the unusual interruption of the regular action of the bowels; the sudden and violent abdominal pain, followed by meteorism; the urgent thirst; the distressing tenesmus, with inability to evacuate the bowels; and the vomiting, eventually stercoraceous, created the suspicion of acute intestinal obstruction. Even after the complete evacuation of the intestinal canal, this opinion seemed strengthened by the circumscribed swelling and resistance detected in the right iliac region; for it was difficult to resist the conclusion that the mischief was in some way connected either with stercoral typhlitis or disease of the vermiform appendix. It may be difficult also to explain the occurrence of stercoraceous vomiting (a phenomenon avowedly most rare either in simple peritonitis or perforation) otherwise than on the supposition that the lower collection of encysted fluid had caused direct pressure upon the bowels in contact with it, and produced, temporarily, obstruction adequate in degree. The slight resistance of the pyloric valve must also be borne in mind. The pressure alluded to, conjoined with irritation of the neighbouring intestine, was obviously the cause of the existing tenesmus. It is clear that at the moment perforation occurred, the contents of the stomach descended to the lower portion of the abdominal cavity, and then, by exciting inflammation of sufficient intensity, became speedily encysted by false membrane.

Another instructive point in the clinical history of the case is the pulmonary complication. It is not that pneumonia itself is so very uncommon in cases of perforating ulcer of the stomach, where the patient outlives the accidents of hæmorrhage or peritonitis; but in the case narrated it was the difficult reading of the symptoms. So peculiar was the expression of the face, so sudden and urgent the dyspnœa, and so rapid the solidification of the lungs, as to induce the belief that these results were directly attributable to pyæmia. The post-mortem examination, however, showed that the lung complication was caused by direct extension of inflammation through the diaphragm to the lungs, causing ordinary double pleuro-pneumonia.

GUY'S HOSPITAL.

STRANGULATED INTESTINE AROUND THE PEDICLE OF AN OVARIAN CYST; FATAL RESULT.

(Under the care of Dr. GULL.)

IT is remarkable that an ovarian cyst should have existed for probably many years in the patient who was the subject of the following case without its ever having given cause to lead to an examination and diagnosis. After a long and fatiguing walk, a piece of bowel slipped down into the pelvis in front of its pedicle, and became fatally strangulated. Such cases are very rare; but, on turning to Mr. Baker Brown's work on Ovarian Dropsy, we find he refers to a case related in the *New York Journal of Medicine* for March, 1851, where death resulted from the twisting on itself of the pedicle of an ovarian cyst. This caused fatal peritonitis. In the annexed case we have availed ourselves of the notes of Mr. Frederick Long, the clinical clerk.

Nancy H——, aged seventy-four, married, and mother of eight children, was admitted Jan. 22, 1863. Has generally enjoyed good health. Had twins once, and all her children in seven years. Married at the age of thirty-five. Ten days ago she had to walk from Blackheath to Lea, and it being a very wet road her shoes became saturated. The next day she was attacked with violent pains all over the abdomen, notwithstanding which she persisted in walking to Dulwich. The pains have continued, and at the same time that the attack came on the abdomen began to swell, and has been increasing rapidly in size since. Previous to this she had never observed any enlargement whatever. She is a healthy specimen of an old woman, and complains of nothing but the above affection.

On examining the belly, it is seen to be much enlarged, and on the left side slight pressure causes a good deal of pain of a lancinating character. There is slight fluctuation, as if the peritoneum contained fluid. Below the umbilicus there is dulness generally, but above there is resonance. The liver is not felt to be enlarged. There is no expression of pain in the countenance, and the pulse is 70.

Jan. 30th.—Belly remains distended; but the pains, instead of being at the side, are now more in the epigastrium.

Feb. 2nd.—The fluid is evidently encysted in some way, because in the left lumbar region there is resonance, and also over the epigastrium, in which places there ought to be dulness if the fluid gravitates. Large crepitation is felt beneath the hand.

5th.—Abdomen continues to get larger; on the left side the resonance is not so marked now. The abdominal walls bulge in some parts more than others; they are not evenly distended.

13th.—Dr. Hicks, on examination, made out a cyst (limited over the umbilical region and also in the two flanks), which is fluctuating.

By the 17th she was quite free from pain, and on March 3rd she left the hospital.

The patient was readmitted on the 18th of March. Since her discharge she has been pretty well, though the swelling has increased in size. On the 16th she was again seized with severe pain over the belly, accompanied with vomiting and constipation. The tumour is now much more distinct and defined; the slightest pressure gives intense pain, and there is a very anxious expression of countenance; vomits a quantity of bilious matter; pulse 84.

The pain continued, and she vomited much bilious fluid. She gradually got worse, and died on the 24th.

Autopsy twelve hours after death.—On opening the abdomen, a large ovarian cyst was seen to occupy the cavity, attached by a very narrow pedicle to the left ovary. In front the omentum was loosely adherent to the cyst wall, and there were also adhesions between the abdominal walls on the left side. On raising up the cyst the cause of obstruction was apparent: a piece of intestine, consisting of the last four or five inches of the ileum, had slipped down into the pelvis in front and around the pedicle, and thus had acted as a tight constrictor to the gut. The intestine above the constriction, to the extent of about a foot, was in a highly congested and inflamed state, the mucous membrane almost sloughing; the part below was contracted, and of a normal colour. There was some inflammation of the rest of the small intestine. The fluid in the cyst was highly albuminous; specific gravity 1020. Heart small; slight thickening of the aortic valves.

ST. GEORGE'S HOSPITAL.

INTESTINAL OBSTRUCTION, PROVING FATAL IN SEVEN DAYS FROM STRICTURE OF THE SIGMOID FLEXURE OF THE COLON.

(Under the care of Dr. PITMAN.)

THE chief feature of interest in the following case is the short period during which the obstruction lasted to prove fatal; but this is explained by the position of the bowel. The stricture was looked upon as probably the result of the cicatrization of ulcers.

Caroline S——, aged fifty, was admitted on the 18th of March last. This patient, who lived but twenty-four hours in the hospital, stated that she had caught cold on the night of March 10th, whilst witnessing the illuminations in the streets, and that obstruction of the bowels, to which she was subject, ensued, and had prevailed up to the time of her admission (seven days). Her abdomen was distended with flatus; there was no particular pain or tenderness, but she was very restless, and the countenance was distressed and anxious. Castor oil and calomel were given, and gruel was injected. A small bloody motion was the result. No further change took place till night, when the extremities began to get cold. She was restless through the night, but gradually became more composed, and died quietly and almost suddenly in the forenoon.

Autopsy, twenty-seven hours after death.—The abdomen was distended. The right pleura contained many old adhesions; but the lungs were healthy. The pericardium contained a teaspoonful of serum. The heart was healthy; the left ventricle very closely contracted. On laying open the abdomen the large bowel was seen in a state of great distension, coiled in a serpentine curve in front of the cavity. The peritoneum contained a small amount of gaseous matter. At the sigmoid flexure of the colon was a constriction which would about admit the index-finger; the narrowed part was about half an inch in length. The coats of the bowel were here anteriorly replaced by white membranous substance, the mucous membrane shelving off on approaching the constriction. The fibrinous substitute was no thicker than the several coats of the intestine, so that no thickening existed. The colon was so curved that a part of it, about two feet further from the anus, was above in contact with the constriction, and there held by old adhesions, the intervening bowel forming a horseshoe bend. At the part thus approaching the sigmoidal stricture was another exactly similar narrowing. The large intestine was chiefly distended by flatus, but contained also a good deal of semi-fluid fæces. The mucous membrane of the bowels was natural, with the exceptions stated. The liver was small, but healthy, and weighed two pounds and a half. All the other viscera were normal. The vagina contained pus.

UNIVERSITY COLLEGE HOSPITAL.

COMPOUND FRACTURE OF THE LEG OF A BOY, FROM A FALL OFF A TREE.

(Under the care of Mr. ERICHSEN.)

ON the 15th instant a lad, aged fourteen years, was brought into the hospital with his right leg broken, and on examination it was found to be a compound fracture of both bones, with protrusion of the tibia through a large wound at the inner side of the leg. The fibula was broken at the malleolus, and the tibia at its junction with the epiphysis, without any dislocation of the latter. None of the great arteries were wounded, and, as the ankle-joint was intact, Mr. Erichsen treated the case as one of ordinary compound fracture. He sawed off a portion of the projecting end of the tibia, adjusted the fracture, and set up the limb in a M'Intyre's splint. Callus is already being thrown out, and there is a prospect of recovery with a useful limb, but a probability of its being a little shorter than its fellow.

SENSITIVE BAROMETER AND THERMOMETER.—At a recent meeting of the Manchester Literary and Scientific Society, Dr. Joule exhibited a thermometer of remarkably delicate construction. It shows a variation of temperature amounting to no more than a few ten-thousandths of a degree. He has also exhibited a barometer by which he states that he is enabled to observe the effect of a variation in its elevation of "less than one inch."

Reviews and Notices of Books.

On Human Entozoa; comprising the description of the different species of Worms found in the Intestines and other parts of the Human Body, and the Pathology and Treatment of the various Affections produced by their presence. To which is added a Glossary of the principal Terms employed. By WM. ARNOTTS SMITH, M.D., M.R.C.P. Lond., &c. pp. 251. London: Lewis.

Remarks on all the Human Entozoa. By T. SPENCER COBBOLD, M.D., F.L.S., &c. From the "Proceedings of the Zoological Society of London." pp. 29.

SINCE the translation by Dr. Lankester of Küchenmeister's well-known work, and its spread among the general body of the profession in Great Britain by the first Sydenham Society, the modern doctrines of helminthology have become widely diffused. Up to that period, however, the greater number of medical men were familiar alone with the teachings of Rudolphi and Bremser. With those in the van of medical science—apart from mere practice—these teachings had for some time given place to the views inculcated by Dujardin, Von Siebold, Leuckart, Van Beneden, and others. By these views not only was an obscure but interesting department of pathological inquiry placed in a novel and clear light, but some great and fundamental laws overruling the propagation of living organisms—those, e. g., of "metamorphosis" and "alternation of generation"—were vividly illustrated.

It is quite unnecessary here that we should point out in what the modern doctrines of helminthology consist. The pages of this journal have been on numerous occasions the media of their communication. Since the English version of the first volume of Küchenmeister's treatise, one or two works have appeared which, in reviewing the recent knowledge we had acquired, and from further investigations, have hesitated to receive as determined all that had been offered for our acceptance. Among these works the treatise of M. Davaine ("Traité des Entozoaires," &c., Paris, 1860) is by far the most noteworthy. Leuckart's work is, we believe, not yet concluded—at any rate we have only seen the first volume. From the knowledge which we have of the former book, and a not careless examination of the production of Dr. Smith, we feel compelled to regard the latter, with the exception of the glossary, as a mere "gutting" of the work of the French pathologist. Certain portions of Dr. Davaine's book have been rejected, and others—those relating to man—have been worked up into a rather imposing volume. We have read many books in our day; but we have rarely stumbled upon one which more impressed us than this with the idea that the author had but little of his own to tell us. We do not, however, mean to imply that Dr. Smith does not acknowledge his obligations to the French *savant*; on the contrary, he appears to have clearly perceived that much of the value his labours would have in the eyes of those who might inquire as to Dr. Smith's qualifications for undertaking a treatise upon "Human Entozoa," must be an admission of the close relationship to M. Davaine. Hence he with great candour observes: "I feel, however, that I cannot permit its issue without recording my deep sense of obligation to Dr. Davaine, of Paris, the author of one of the best modern treatises upon Entozoa, for the disinterested and unconditional manner in which he gave me permission to make use of any portions of his work; and to Messrs. Baillière and Sons, the proprietors of the copyright as well as the publishers of Dr. Davaine's treatise, for a similar privilege, of which I have, as will be seen upon a perusal of the following pages, largely availed myself."—p. iii.

Sly Messrs. Baillière! you only knew too well that such a work as Dr. Smith's would but send all the more quickly anxious inquirers to drink at the fountain head.

In most perfect contrast to Dr. Smith stands Dr. Cobbold. Here are only some thirty pages by the latter, yet every one showing ample proof both of the accomplished scholar and of

the laborious naturalist. Dr. Cobbold is an original investigator in this department of science, and one honoured by the communications of other original workers in the same field in the most opposite parts of the globe. He has here given us about the best "critique" we know upon some of the more obscure points in helminthology, and enriched it with the record of several important observations. There is not a single continental writer on this subject who can afford to be ignorant of these few pages from the Zoological Society's "Proceedings."

Heat considered as a Mode of Motion. Being a Course of Twelve Lectures delivered at the Royal Institution of Great Britain, in the Session of 1862, by JOHN TYNDALL, F.R.S., Professor of Natural Philosophy in the Royal Institution. With Illustrations. pp. 468. London: Longman and Co.

THOSE who shared in the privilege of listening to these admirable lectures in the theatre of the Institution—whose frequenters listen with as much pleasure to Mr. Tyndall as ever our fathers did to Davy or ourselves to Faraday—will be much pleased to see them in print, and to have the opportunity of going over again the old familiar ground. Those to whom the subject, treated in this way, is new, will find a charm in the lucid language, the eloquent descriptions, and the illustrative fertility of the author, which they can never yet have discovered in any treatise on so apparently dry a subject, and which will draw them back to the volume again and again, until they have made themselves masters of it. Never before, as it seems to us, unless in the lectures and dissertations of Faraday—at once the predecessor, master, and friend of the author,—has the doctrine of the Unity of Force been so admirably set forth. That motion, heat, electricity, and magnetism respectively produce and are produced by one another, may be well known to us as a theory; but here we have it proved and illustrated by hundreds of experiments and examples, arranged in such a manner that they conduce to an inevitable corollary. In connexion with the laws of freezing and melting, the author introduces that glacier theory of his, known as the "Regelation Theory," which has displaced the old "Viscous Theory" of Prof. James Forbes.

Mr. Tyndall's investigations are not confined to the laboratory. Like old De Saussure—one of the first to ascend Mont Blanc,—he has experimented on the Alps themselves. We trust that, in spite of the perilous ascensions and explorations with which he occupies his summer holiday, his life may be long preserved for the benefit of science and the delight of the audience of the Royal Institution.

Everyone should read this volume. It is one of the books of the day; and is, besides, excellently printed and illustrated with woodcuts.

Recherches Expérimentales sur l'Action Physiologique de l'Ipécacuanha. Par G. PÉCHOLIER, Prof. Agrégé à la Faculté de Médecine de Montpellier, etc. pp. 53. Paris, 1862.

IN these researches the author employed emetine, which is the sole active principle of the drug, as well as the drug itself. The animals selected for experiment were rabbits and frogs—the former, because they do not vomit. The following are the results of the inquiry:—1st. In regard to the circulation, it was found that ipecacuanha considerably diminished the number and energy of the pulsations of the heart in rabbits. 2nd. In reference to the action of ipecacuanha on the respiration and the tissue of the lung, it was ascertained that it notably reduced the number of respirations in the animal, as well as the afflux of blood into the lung. Indeed, the paleness and exsanguineous state of the pulmonary tissue discovered after death were remarkable: it was a veritable depletion of the lung. With respect to the action of ipecacuanha on animal heat, it resulted that, in animals under its influence, the temperature of the mouth, of the axilla, and of the ear was lowered, while that of the rectum remained stationary or rose. Ipecacuanha seems to exercise a counter-stimulant action on the gastro-intestinal canal; characterized by efforts at vomiting, hyperæmia of the digestive tube, and the disappearance of sugar from the liver. Its action on the nervous system was investigated in frogs. It reduced promptly the energy of the nervous system, and determined considerable collapse. The paralysis induced by it manifested its impression mainly on the sensitive nerves; while the motory nervous power and the muscular contractility were merely diminished, and not wholly abolished.

THE NEW LICENCE OF THE COLLEGE OF PHYSICIANS.

THE new Licence of the College of Physicians is already advancing in public estimation. At the examinations just terminated, 17 gentlemen presented themselves for the first or preliminary examination, of whom 15 passed; while 18 out of 23 candidates passed the final examination. Subjoined are the questions put in Medicine, Midwifery, and Surgery at the second part of the professional examination:—

PRINCIPLES AND PRACTICE OF MEDICINE.

1. Describe the symptoms, and explain the pathology of asthma.
2. Contrast the symptoms of poisoning by opium with those of apoplexy and intoxication.
3. Describe an attack of croup, and the morbid appearances found after death.
4. Describe the symptoms and treatment of dysentery.
5. What are the symptoms of the initiatory stage of small-pox?
6. Describe a case of acute hydrocephalus, and state the treatment that you would adopt.

MIDWIFERY AND THE DISEASES OF WOMEN.

1. What are the different indications for the induction of premature labour? What are the different modes of inducing it, and the comparative advantages and disadvantages of each?
2. What are the causes, the symptoms, and possible consequences of retention of the placenta in labour, and how is such retention and its results to be treated?
3. Explain what is meant by transverse presentations. Describe the process of spontaneous evolution, and state what operative assistance is indicated in the different circumstances of transverse cases.
4. Enumerate the contents of the gravid uterus at the third month of pregnancy, and describe the relative positions of the different membranes, &c.

PRINCIPLES AND PRACTICE OF SURGERY.

1. What is a varicose aneurism, and what an aneurismal varix? How would you treat these conditions when occurring at the bend of the arm?
2. What symptoms would indicate intra-cranial meningeal extravasation of blood following a blow on the head? How would you treat such a case?
3. Describe the symptoms of acute iritis, and the treatment you would adopt in that disease.
4. (*a*) What structures would you divide in the operations for strangulated inguinal hernia, oblique and direct?
   (*b*) In what direction would you divide the stricture, and why?
   (*c*) What would you do if you found the gut gangrenous?

SUBCUTANEOUS HERNIOTOMY. — M. Langenbeck, of Hanover, performs this operation as follows:—The surgeon pinches up a fold of skin, and makes an opening sufficient to allow the passage of the index finger, the opening being situated a little below and internally to the external ring. With the index, the soft parts which surround the protruding bowel are then detached up to the strictured part. The fibres of the ring are then to be torn with the finger, and, if the hooked finger do not succeed, a hernia-knife may be glided on it, or a blunt hook may be substituted for the knife, to avoid hæmorrhage. The sac is then to be examined, adhesions broken down, and the bowel returned into the abdomen. There must be, in this mode of operating, a great deal of tearing and bruising, and very little certainty as to the parts acted upon.

THE LANCET.

LONDON: SATURDAY, APRIL 25, 1863.

In the remarks recently made in our columns on the epidemic of fever which has been prevailing in the metropolis since December, 1861, we pointed out that the fever was true typhus, and that the prevalence of enteric fever had not exceeded the average of previous years. Enteric fever, in fact, has been shown by Dr. MURCHISON to differ from typhus in being essentially an endemic disease. Its outbreaks are always of a circumscribed character, being sometimes limited to a small village or to a solitary house. It is not, like typhus, confined to the poor, but it prevails among rich and poor alike; and indeed there are some reasons for believing that the rich and well fed are more prone to be attacked by it than are the destitute. It is the fever by which Count CAVOUR, several members of the Royal Family of Portugal, and the Prince Consort came to their untimely end; and it is that from which Prince ALFRED has recently suffered. Enteric fever, moreover, differs from typhus in the circumstance that its origin and propagation are quite independent of overcrowding with defective ventilation, and are so intimately connected with bad drainage that by some writers the fever is now designated *pythogenic*, or fever born of putridity. It is needless to discuss here whether the poison is generated *de novo* in decomposing sewage, as maintained by Dr. MURCHISON, or merely propagated by the drains, as urged by Dr. W. BUDD; it is sufficient to know that the close connexion between bad drainage and the prevalence of enteric fever is placed beyond the reach of doubt, and is an almost universally acknowledged fact.

Another important peculiarity of enteric fever is the circumstance that it always becomes more prevalent in autumn. This observation has been made in many different parts of the world; and the fact is so well known in America that the disease in that country is often spoken of as the "autumnal" or "fall fever." At the London Fever Hospital, where the different fevers have now been distinguished for fifteen years, it has been found that the number of admissions for enteric fever always increases greatly in autumn, and that the disease almost disappears in spring. Nothing of the sort has ever been observed in the case of true typhus. Take, for example, the experience of the Fever Hospital for the past year. From April 20th to May 21st, 1862, not one case of enteric fever was admitted into the hospital, while the typhus admissions numbered 210; but in the month of October, the admissions for enteric fever rose to 35, and those of typhus were only 108. These figures may be compared with the returns of the previous year to show that the same law holds good with regard to enteric fever when typhus is not epidemic. During the three months April, May, and June of 1861, there were admitted into the Fever Hospital 6 cases of enteric fever and 25 of typhus; and during the three months September, October, and November, 92 cases of enteric fever, and 22 of typhus. The increased prevalence of enteric fever in autumn does not subside immediately on the advent of winter. The disease seems to reach its maximum at the middle and end of autumn, thence to decrease until April, when it is at its minimum, and afterwards to increase progressively through the summer and autumn months. The *protracted* heat of summer and autumn appears necessary for the increased prevalence of enteric fever; while, on the other hand, the *protracted* cold of winter is required to impair the activity of the poison or to destroy it.

Some remarkable modifications of, or exceptions to, the above statements tend only to confirm the truth which they are intended to convey. Numerous observations exist showing that enteric fever has been unusually prevalent after seasons distinguished by their great heat and drought; the high temperature favouring decomposition, while the want of water interferes with the flushing of the drains, and leads to the accumulation in them of decomposing sewage, and the escape of sewer-gases into the interior of houses. Conversely, cold and wet summers are followed by a remarkable diminution in the prevalence of enteric fever. This was notoriously the case in the year 1860, the summer and autumn of which were among the coldest on record. The rarity of enteric fever in that year, throughout the whole country, was a subject of general observation. Moreover, this was the only year during the last fifteen that the admissions for enteric fever into the London Fever Hospital fell much below the ordinary average. In the other fourteen years the number never exceeded 234, and was never less than 137; but in the year 1860 it was only 94, this diminution being due to the absence of the ordinary autumnal increase. Again, it is found that an extraordinarily mild winter is characterized by an unwonted prevalence of enteric fever. From the absence of great cold, there appears to be a persistence, so to speak, of the ordinary autumnal increase.

It is the last-mentioned point which has mainly induced us to make the above observations. Although, as we showed in a previous article, the great epidemic of fever which prevailed in the metropolis throughout the year 1862 consisted solely of true typhus, since the commencement of 1863 enteric fever has been much more prevalent in many parts of the country than is wont to be the case at this season of the year. Information has reached us of outbreaks of enteric fever, during the period in question, at Hastings, Rotherham, Canterbury, Long Sutton, Leighton Buzzard, Hawkhurst, and many other localities, which have completely escaped the epidemic of typhus experienced in London. Even in the metropolis, the cases of enteric fever observed in the latter part of the winter have been unusually numerous for the season. Thus in the two months February and March the number of cases admitted into the London Fever Hospital has been 35, the average number for the same months of the fifteen previous years being only 17, and the largest number in any one of the years being 23. Still neither in the metropolis nor in any part of the country has there been an epidemic of enteric fever at all approaching in severity or in extent the epidemic of typhus already described as prevailing in London. Outbreaks of enteric fever are very apt to be exaggerated, and have been so in the present instance, in consequence of the disease attacking persons of mark moving in the upper ranks of society. When one or two well-known individuals succumb to enteric fever in a small town or village, the alarm is at once spread, and rumour busies itself to manufacture a great epidemic. It is not so with typhus, which may destroy its thousands among the poor, and yet attract little notice. Throughout the country the preva-

lence of enteric fever has not been greater than is always found to be the case in autumn; but there has been an unusual persistence throughout the winter of the ordinary autumnal prevalence, owing to the mildness of the season. In some instances also it is probable that the fever has broken out in localities formerly exempt from it, the absence of intense cold permitting the fermentation of organic matter, excited in the previous warm season, to progress unchecked. In almost every one of the localities where enteric fever has been prevailing, it has been attributed to bad drainage. This was the case at Hastings, Leighton Buzzard, and many other places; while at Rotherham the outbreak was accounted for by the bad quality of the water, and by its supply being insufficient for the proper working of the drains.

From the above remarks it is obvious that the circumstances attending the recent prevalence of enteric fever are in accordance with the generally accepted views as to its etiology. The practical adoption of these views promises to the public as great an immunity from enteric fever as vaccination, properly performed, offers in the case of small-pox.

ON many recent trials the value of medical evidence has been severely tested. It is worth while to inquire why it is that the opinions of scientific witnesses and the finding of juries do not always agree, and also to consider what importance jurors should attach to professional testimony. It is essential to a full comprehension of either subject that a broad distinction be drawn between the functions of a scientific inquirer and those of a juror. The object of the former is to ascertain truth simply: the duty of the latter is to arrive at a true verdict, which may or may not be the truth itself. The scientific accuracy capable of being evinced by those who study special subjects with the view of investigating their nature, differs essentially from the reasonable certainty at which a jury are bound to arrive before delivering a verdict. The former results from an analytical scientific process by which the existence of a particular relation is inferred, if not ascertained: the latter implies a conclusion for a specific practical purpose by which such a relation may or may not be determined. In the one, the medical witness not unfrequently must arrive at an opinion explicable on a number of facts, the truth of which is assumed; in the other, the jury must first be satisfied of the truth of the facts, which include the scientific evidence, before they venture on a conclusion. When a medical witness gives his evidence, he expresses confidence in the general trustworthiness of the results obtained by the application of established scientific principles: when a juror delivers a verdict he declares his opinion whether a given result has been reached by evidence, of which the application of such principles forms but a part. The expert, who speaks with scientific confidence, must, of necessity, receive as true a vast number of data incapable of demonstration, or accept the alternative of abstaining from a decision: the juror who says "not guilty" may only mean "I am not satisfied." The verdict is still a proper one, though the conclusion be not true. This paradox is explicable by remembering that the question is not whether a man is guilty or a fact is proved, but whether the juror has any reasonable doubts that he is guilty or that the fact is proved. What in a given case should constitute "reasonable doubt" may depend on considerations wholly beside the questions of science, on which it is not desirable that medical men should be permitted to express an opinion. Thus an apparent conflict may arise between science and justice, while the principles of both are maintained, and neither allowed to clash. The difficulty of a jury in arriving at a verdict is admittedly increased by an antagonism in medical or scientific evidence. It is interesting to investigate the causes of such conflict. Grant that Medicine is an inexact science, and that approximate rather than demonstrable truth is the utmost it can afford. It follows that the value of every conclusion must be in the direct ratio to the judgment which guides its formation, and that men desirous to speak the truth may differ in their views of what is the truth. The existence of this difference in nowise detracts from the respect due to medical opinion. So long as persons are not confounded with principles, science cannot suffer from its inherent sources of difficulty in arriving at exact results. There are many points of practice on which men of acknowledged position are not agreed, and in which arguments can fairly be urged on both sides. When questions arise in reference to such, the scientific witness who forbears from informing the Court that his opinions are not universally entertained, in our view does justice neither to his own experience nor to that of his brethren, and to that extent fails to fulfil his duty. The object of all scientific evidence is supposed to be, and ought to be, the instructing the minds of those with whom a decision rests, on the actual condition of professional opinion in reference to a particular question. The personal views of the witness on that particular question are matters for a jury to accept or reject, and are always so put forth by the judge. If it were not so, in every case in which an antagonism of professional opinion existed, juries would be required to try the capability of one individual by an assumed standard of authority on the part of another, than which nothing could be more manifestly unjust. Scientific witnesses who fully and impartially state their views need have no apprehension that they will suffer from the scientific variances which their testimony may contribute to establish.

It may be asked, if Medicine be a science of observation of constantly recurring facts, why do men of equal experience on the same subjects arrive at different conclusions? The answer rests in the fact that they so do, and that a similar phenomenon is observable in LAW, in which the premises are distinct, and in Mechanics, in which the principles are demonstrable, while, for the practical purposes of life, no one repudiates the claims of either of these sciences to authority and respect. In Medicine, when contrasted with kindred pursuits, exceptional cases more frequently arise, because the elements of indecision are more numerous, and the sources of error less under control. This is obvious when it is considered that of the rules which, in medical investigation, guide to a scientific conclusion, some are thoroughly well ascertained, and are acted on constantly with unfailing results; others, though conjectural and variable, are still of positive value as the indicia of that power of predication known as experience. The first constitute common knowledge; the second are the measures of individual capacity for its exercise. The one is within the reach of all; the other is not equally attainable by all. Though every man practising a profession is bound to bring to his aid every resource of adopted truth, in order that, by the study of their operations he may school his judgment, it yet not unfrequently happens that, owing to causes other than a want of individual capacity, medical men considered as safe practitioners

prove unsatisfactory witnesses, since under examination they are required not only to show that they are satisfied themselves, but also to impress others with the reasons which have guided them to their decision. This their peculiar position may prevent them from doing. Take the example of a country practitioner examined by counsel who tests his judgment by authorities with whom it may be he is not familiar. The reliability of his opinion in reference to matters within his personal observation may, nevertheless, be beyond question, and great caution should be exercised by others before adopting adverse views on such matters when they have ceased to be demonstrable. The case is different when professional experts are required to give abstract testimony. The Court and jury have then a right to expect all the known scientific experience on the question; and not the least valuable part of that experience invariably is the conflict of recognised authorities, the withholding of which must always be considered a matter of the first importance.

It is always to be regretted when a medical witness imperfectly passes through the ordeal of the witness-box, and more particularly so should legitimate differences in opinion evoke unfriendly judicial criticism. When such occurs we feel disposed to ask,—Is the Bench entitled to less respect if, in its judicial capacity, it be divided on a question? Is the Bar less worthy of confidence because a conflict of opinion exists on known facts? Are juries useless institutions when, though seeking to obtain the highest amount of certainty, they hold it unreasonable to doubt the truth of that which may be subsequently proved to be untrue? Surely not. The cause of such criticism generally lies deeper than the surface. We believe that judicial dissatisfaction with medical opinions points to something beyond scientific uncertainties, and is more frequently elicited by the manner rather than the matter of the evidence. Medical men occasionally adopt theories without sufficient examination or reflection. An imperfect primary investigation, a carelessly instituted analysis, a partial acquaintance with a particular science, a limited experience in a special disease, have recently been exhibited in several public trials, and afforded opportunity for severe comment, if not loss of life. It becomes the duty of every well-wisher of his profession to be prepared against a possible repetition of such occurrences. This can only be accomplished by a careful consideration, in the first instance, of all the circumstances of the case, so far as they bear on its scientific elucidation.

A few days since, in the report of a trial before the Lord Chief Baron, in which local injury was alleged to have resulted from violence, and in which the jury returned a verdict for the plaintiff, we read: "There was abundant medical evidence on both sides. On the part of the plaintiff the medical evidence was, that the diseased bone and abscesses might have been produced by the flogging; on the part of the defendant, that it was *impossible* for the flogging to have produced the injuries, and that they were the result of natural causes." It might not unreasonably be asked why it was that medical evidence on a matter of this nature, seen in its commencement, and traced throughout its progress, should manifest such a variance of opinion? We believe we have, in the foregoing observations, pointed out the source.

We particularize the case without arguing upon it. Our desire is to direct the attention of professional men to circumstances explanatory of a possible disposition on the part of those in authority to attach but little weight to their testimony, and to impress upon them the necessity of exercising a sound discretion before they venture to give opinions which may form the basis of litigation. The influence of the medical profession as a profession is but the aggregation of that of its members. It is no small compromise of professional reputation, by hasty expressions or rash avowals, to promote, if not provoke, litigious dissension, and especially is such to be avoided when inexperience or incompetency thereby put science to the proof.

Medical Annotations.

"Ne quid nimis."

THE ROYAL COLLEGE OF PHYSICIANS.

THE general meeting of the Fellows of this College was held on the 20th inst. The most satisfactory reports were received as to the number of applicants for the new licence for general practice, and miscellaneous business was transacted, of which the following items possess some public interest:—

In the course of last year, the Colonial Secretary requested the Royal College of Physicians to draw up a series of questions bearing on the Etiology of Leprosy, for transmission to medical officers serving in different parts of the world where leprosy prevails. The College accordingly appointed a committee for this purpose, consisting of Drs. Gull, Arthur Farr, Milroy, and Greenhow. A large number of replies have already been received, which have been forwarded to the College for analysis by the Duke of Newcastle. The College on Monday requested the committee who framed the questions to analyze and digest the replies. Judging from the size of the pile of papers, this duty will be anything but a sinecure.

A committee of the College of Physicians, consisting of Drs. Hawkins, Alderson, Budd, and Pitman, have drawn up two addresses, to be presented to her Majesty and H.R.H. the Prince of Wales, congratulatory of the marriage of the Prince. The addresses were read to the College at the meeting, and approved. The College seal was accordingly affixed to them.

The General Medical Council will meet for the transaction of business, in the hall of the College, on Monday, the 25th of May.

The Society of Medical Officers of Asylums for the Insane has again been permitted to hold its annual meeting in the hall of the College. The meeting will take place on Thursday, the 9th of July.

It was resolved that the testamur of having passed the examination in Arts at Codrington College, Barbadoes, and the certificate of the second class in Literature and Science of the Cape of Good Hope, be accepted in lieu of the examination on the subjects of general education conducted by the examiners of the College.

It may be well to call attention to the fact, that every candidate for the Membership of the College of Physicians is required to translate into English a passage from a Latin author. He will also have the opportunity of showing his knowledge of Greek, or of one or more of the modern European languages.

SEWAGE OF TOWNS.

THE reports issued by the Royal Commission appointed to inquire into the best mode of utilizing the sewage of towns, and applying it for beneficial and profitable purposes, have not yielded much good to the cause which they were intended to advance. A discussion took place in the House of Commons this week upon their labours, and it has left the matter somewhat more obscure than it was at the commencement of the inquiry. Dr. Brady, in the recent discussion, insisted upon

the great series of facts illustrative of the value of the refuse of towns, and its applicability in a fluid state to the fertilization of land. He pointed to the example of Milan. "A committee of the Royal Commission visited Milan, and they found that although only a portion of the excreta of the inhabitants passed into the irrigating canal and it was mixed with 163 gallons of water per individual (the sewage of London being diluted with only about 40 gallons per head), yet the effect produced upon the land to which this attenuated sewage was applied was so great that its rent was raised to £5 or £6 per acre, and similar crops could not be raised on the adjoining land without the expenditure of £4 8s. per acre upon manure. The value of this Milan sewage, therefore, was no less than £4 8s. per acre. Why, then, was it that such insignificant results had been obtained at Rugby? Because the system was bad. The sewage there was always flowing, as it was at Edinburgh; and of the plan followed at the latter place the Commission reported that it dealt with sewage as a thing to be got rid of with great success. 'A thing to be got rid of!' Surely the Commission was appointed, not to get rid of the sewage, but to endeavour to apply it to some useful and beneficial purpose."

A number of agriculturists, including Mr. Mechi, Mr. Mills, Mr. J. King of Birmingham, and others, also bore testimony to the agricultural value of the liquid sewage of towns. But the experiments which have been conducted for the Commission by Mr. Lawes at Rugby have been eminently unfavourable. Fifteen acres of land were divided into four lots, to the first of which was applied no sewage, to the second 3000 tons per acre per annum, to the third 6000 tons, and to the fourth 9000 tons. The sewage was put on the land by flooding from open gutters. The tests employed to ascertain the value of the sewage thus applied were as follows: first, the capacity of the crops thus raised to fatten cattle; second, the capacity of the cattle thus fed to give milk, butter, &c.; and third, the yield per acre of hay. One of the animals fed upon the grass weighed 56 lb. less at the end than at the beginning; the butter was very short in quantity and very inferior in quality; and no more than three-quarters of a ton of hay could be got for every 1000 tons of sewage applied to an acre of land. These experiments are to be continued. The results are certainly very far from what might have been anticipated from what we have heard of the success alleged to have attended various experimental applications of sewage. If there are in this experiment any accidental or undue sources of failure not essential to the application of liquid town sewage to the land, all who are interested in the solution of this important question, and lean towards the undoubtedly philosophical dogma which would restore to the land the refuse of the populations whom it sustains, should take careful note of all the details of Mr. Lawes' experiments, and should personally inspect the mode of carrying them out. If the conclusions he has drawn from them be finally established, the utilization of town sewage will be certainly long deferred.

THE BAYARD OF INDIA.

So much has appeared of late in our columns tending to depress the hearts of army medical officers, that we are glad to cheer them with a word of sympathy from the dying lips of one who, through good and evil report, was always their friend. A letter is now before us from a medical officer of rank in the Indian army, who happened to be at Pau, in the south of France, when the gallant Outram reached that place from Nice —to die. "Entertaining," writes this gentleman, "a high esteem for this brave and single-minded man, and grateful to him for all he had done and tried to do for army medical officers, I placed my services at his disposal; they were gratefully accepted, and I remained in close attendance on him to the last. My gallant patient was in a hopeless state when he reached Pau. The cold winds of Nice had excited a fresh attack of bronchitis; and during the last eight days of his life he was unable to lie down even for a few minutes." After giving some details of the gallant General's sufferings, the writer goes on to say: "Weak as he was, he spoke often of the depressed position of army medical officers, regretting that so little success had attended his efforts to obtain a due recognition of their services; adding with emphasis, 'The day must come when your services will be recognised. Another great war will end this long controversy in your favour.'" Such were the dying words of this good and gallant soldier: we are sure they will cheer the hearts and sustain the courage of those who have fallen on evil days; we wish we could add a hope that they may excite in the minds of other combatant officers some spark of the same generous sympathy for a class of officers to whom they are under so many and such great obligations. A "combatant" Outram was in a sense little understood by some who, while loudest in maintaining "combatant" privileges, have small experience of the realities of war. This Bayard of the Indian Army was war-bred from his youth upwards, and gathered his knowledge of the services of army surgeons in other fields than those of Aldershott and the Phœnix Park; and the words we have given from the dying lips of this great soldier ought to go a long way to console army surgeons for the supercilliousness of club colonels, and the *morgue* of Horse Guards officials.

THE DRAINAGE OF BRIGHTON.

THE good people of this favourite bathing and watering place are very evidently themselves of hybernating constitution. They have gone comfortably to sleep over the drainage question through all the cold wintry months, and are now arousing into a half-drowsy shudder of activity. It is worthy to be noticed that while under this Lethean influence a change has come over the spirit of their dream, which leads them to admit what in the height of the season and the stench they so strenuously and indignantly denied. Mr. Bowdidge himself, the Demosthenes of the corporation, who denounced last year all sensitive stomachs and turned-up noses as marks of affected ill-will, and to whom the sight of a handkerchief held to the nose in passing the Old Steyne was as exciting as though the rag had been red—Mr. Bowdidge has just oracularly declared that "something must be done to the outfall (sewer) in front of the centre of the town before the summer, for it was sometimes *too intolerable to bear.*"

Perhaps Mr. Bowdidge never thought of coming to this; and we hope that Dr. Hall will be merciful in his victory over this prostrate town-councillor, who has kept his countenance so long in face of the detestable nuisance which defiles the sea and taints all the air in front of Brighton, but has at last been restored to a sense of the disgusting character of the pollution, and can no longer bear the stench of which he denied the existence. Whatever the scheme adopted may be, there is one thing it ought not to be: it ought not to include any plan for lengthening the pipes and throwing forth all the sewage into the sea in front of the town. We have already given full details on this matter; and now that the Town Council have shown renewed signs of mental activity, we refer those interested to the Report on the Drainage of Brighton published in THE LANCET last autumn.

THE GENERAL MEDICAL COUNCIL.

THE Council will commence its annual session on the 25th proximo. It is expected that a strenuous effort will be made on the part of the liberal members of the Council for the admission of reporters to the meetings. Hitherto this wholesome proposition has been negatived by a considerable majority. Whether it will be carried at the next meeting is doubtful; but its ultimate success is, we trust, certain. Why should an executive board, elected by a quasi-popular constituency, be exempt from public supervision? Is it unwilling to encounter

the criticism of its proceedings by its constituents? or does it still cling to obsolete privileges, in opposition to the requirements of the time and to the feeling of the profession? These are questions which it may be well for the Medical Council to consider.

Sanguine persons express a hope that in the forthcoming session something definite will be achieved with regard to the new Pharmacopœia; but it is yet far from complete. Considering the large sums of money which have been devoted to the preparation of this publication, and the unjustifiable delay in its appearance, the profession will expect that good reasons be given for the slowness which has hitherto characterized the proceedings of the Pharmacopœia Committee. The necessity for tedious correspondence between the sections on each sheet ere it passes through the press promises to postpone the publication of the whole *ad Græcas kalendas*.

NOXIOUS VAPOURS.

THE Select Committee of the House of Lords of last session on Noxious Vapours having issued some time since their report, in which they point out especially the evils arising out of the escape of noxious gases from alkali works, and sulphuric acid, ammonia, alum, and other similar factories, the Government have laid before the House of Lords a Bill to carry into effect the recommendations of the Committee, more particularly in respect to alkali works. The muriatic fumes which escape from the lofty flues of these great factories spread far and wide over the surrounding country, and are highly destructive to vegetation. The great landlords in the vicinity are considerable sufferers, and among these sufferers is the Earl of Derby, who has been active in moving Parliament on the present occasion.

The alkali manufacture is one of great importance to this country. The amount of capital involved is stated to be upwards of £2,000,000; the annual value of its productions is £2,500,000; 19,000 persons are employed in it, and the wages paid reach £871,000 a year. Lord Stanley of Alderley therefore had ground for stating that their lordships must regret if any legislation with a view to enable owners of land to recover compensation from the manufacturers should be attended wi h damage to so important an interest.

The alkali manufacturers have, much to their credit, expressed great readiness to be subject to legislation on the matter, and the present Bill proposes heavy pecuniary penalties for every alkali work (meaning every work in which muriatic acid is evolved) which shall not be carried on in such a manner as to secure, to the satisfaction of an inspector to be appointed by the Board of Trade, the condensation of not less than 95 per cent. of the muriatic gas evolved in such work. The inspector is to have access to the work, and the right of inspection and examination, at all reasonable times by day and by night, but so as not to interrupt the process of the manufacture; and he is to have a right to be furnished with a plan, to be kept secret by him, of those parts of the works in which the decomposition of salt and the condensation of muriatic acid gas is carried on. He is also to be at liberty to employ tests and make experiments for the purpose of ascertaining the efficiency of the condensing apparatus, or the quantity of gas condensed.

It is necessary to make the regulations somewhat stringent, as the vapour might be effused without being visible to the eye. It is not proposed to include in this Bill the manufacture of sulphuric acid, ammonia, and alum, on the ground that the gases, though offensive, are not very injurious to life and vegetation. There is no doubt that the Bill will be passed with slight modifications.

PREVALENCE OF SMALL-POX.—A correspondent in the *Times* recommends that, during the present prevalence of small-pox, the Queen's Bench Prison should be opened as a temporary receiving-house.

THE CASE OF DR. EDWARD WATERS.

MEETING OF MEMBERS OF THE LIVERPOOL MEDICAL INSTITUTION.

A SPECIAL general meeting of the members of this institution was held on Monday evening last, "to take into consideration the best mode of expressing sympathy with Dr. Waters, of Chester, in reference to a late trial which had taken place in that city." Dr. Vose presided, and the following gentlemen were present:—Drs. Chalmers, Grimsdale, Skinner, Imlach, H. Taylor, Petrie, M'Naught, Gee, A. T. H. Waters, Thompson, Graham, M'Intyre, Shearer, Dickinson, Stopford; Messrs. Desmond, Denton, Irvin, Steele, Marsh, Hakes, Bickersteth, Lowndes, C. B. Wilson, M'Cheene, Martin, Parker, Pennington, Swift, Stubbs, Halton, Manifold, Dawson, and Oxley.

Dr. A. STOOKES (the hon. Secretary) read letters of apology from several gentlemen who were unable to attend the meeting.

The CHAIRMAN read some observations which he had prepared relative to the case of Dr. Waters.

Dr. M'NAUGHT moved the first resolution,—"That this meeting desire to express their hearty congratulations to Dr. Edward Waters, of Chester, on the result of a recent trial in that city, which leaves his character unsullied, after sustaining attacks which have seldom been equalled for persevering malignity." I have great pleasure (Dr. M'Naught said) in bringing before you the resolution placed in my hands by the Council. It is a resolution, I am convinced, which will meet with perfect unanimity here, and be approved of abroad by every right-minded man, whether in or out of the profession. It is to offer our congratulations to Dr. Edward Waters upon the happy issue of his late trial at Chester. (Applause.) Most of you, I dare say all of you, have read the evidence, the pleadings of counsel on both sides, the judge's charge; and it is scarcely necessary for me to express an opinion as to the malignancy of that prosecution, or rather, I should say, persecution. (Applause.) That anyone, and especially a man of Dr. Waters' high social and professional position, should be exposed to such base calumny in the exercise of pure Samaritan-like benevolence, and upon such wicked and worthless testimony, is really and truly deplorable. It makes one shrink with indignation to think that a virtuous, kind-hearted man should be brought before the public to defend himself against so virulent, clumsy, and vile a conspiracy against his honour and reputation. (Applause.) But, gentlemen, what was Dr. Waters' case may be yours to-morrow; and some of us, perhaps, might not possess either the moral courage or pecuniary resources necessary for the establishment of an insulted character, as he fought for and effected. I say, therefore, he richly deserves the congratulations of the whole profession for his energetic and manly conduct in resisting all attempts at a compromise. In fighting his own battle, gentlemen, he has also been fighting ours (applause), and after such an *exposé*, and such a triumphant verdict, it is to be hoped that credulous elderly vestals will not be so ready to place implicit faith in the cunningly-devised tales of hysterical, lascivious girls. We all know what hysteria is, and if lawyers were as well acquainted with the deception practised, and the ingenuity often exhibited on points of immorality, in some cases of that Protean malady, they would be less disposed to undertake such cases as that of Bromwich *versus* Waters. (Applause.) I shall only touch upon the sympathy generally felt for the distressing ordeal Dr. Waters has undergone. Supported even by the conscientious feeling of innocence, it is a terrible thing for a pure mind to be dragged before the public upon so gross and wicked a charge. With these remarks I beg to submit the resolution. (Loud applause.)

Mr. BICKERSTETH.—It affords me much pleasure to second the resolution, and I do so with peculiar satisfaction, because I think that Dr. Waters is entitled to the unqualified gratitude of the profession for the manly and courageous way in which he has boldly met the vile charges with which he has been assailed. It is well known that long before the trial took place offers of compromise were made to Dr. Waters, and not only made, but urgently pressed upon him. Few men could have resisted the desire to avoid such a trial, but Dr. Waters, conscious of his moral rectitude, declined to submit to any compromise after the aspersions that had been made upon his character, and determined to have the whole truth brought to the light of day. When I think of the nature of the charge against Dr. Waters, and of the absurd evidence upon which it

was attempted to substantiate that charge, I ask myself, and I ask you, which of us might not any day find ourselves in a similar position if unfortunately we should happen to have been consulted by some designing woman. (Hear, hear.) In private practice we are frequently called upon to make secret and private examinations when entirely alone with our patient. The presence of a third party on such occasions is often as offensive to the feelings of a woman as it would be to a man who, suffering from disease of the genital organs, is called upon to exhibit those parts. It may be politic to propose that a friend should attend, yet I confess that I think it is generally unnecessary. It would often not only be cruel to the patient, but derogatory to our position as confidential advisers to insist upon the presence of a third party. Our position is indeed a dangerous one, but it is rendered doubly dangerous when, as in the late trial, we find members of our own profession (one of whom does not hesitate to state that he felt convinced the case against the Doctor must fail, as there was no evidence to support the charge) who do not hesitate to undertake a journey to Chester to propound opinions peculiarly their own, and upon the correctness of which alone it was possible to convict Dr. Waters. (Applause.)

The resolution was then put, and carried unanimously.

Mr. STEELE moved the second resolution as follows:—"That this meeting feels called upon, in the interest of the profession, to record a solemn and energetic protest against medical witnesses, to the great injury of their brethren, assuming the functions of advocates and volunteering opinions when they are only required to testify to facts, a practice deplorably frequent, and which has reached its culminating point of impropriety at the hands of Drs. Lee and Ramsbotham in the case of Bromwich *v.* Waters."—Mr. Steele said that, however painful and disagreeable it might be to pass censure and condemnation upon the conduct of medical men of eminence and reputation, it was their imperative duty to come forward on this occasion in support of the resolution which he had read—a resolution which he hoped would obtain the cordial and unanimous approbation of the meeting. The resolution was not directed so much against the gentlemen named personally as against the objectionable practice of which their recent conduct had formed so graphic an illustration—namely, the practice of medical witnesses assuming the functions of advocates and volunteering evidence when they were only required to testify to facts. He need not detain the meeting by showing that this course had been adopted by the medical witnesses for the prosecution in the case of Bromwich *v.* Waters. That the practice was deplorably frequent must be pretty evident to most of those who were acquainted with the numerous cases which had lately occurred in the law courts, where charges had been brought against members of the medical profession which had proved to be unfounded, but in which there appeared to be no difficulty in inducing medical men to come forward on the part of the prosecution, and give evidence in such a way as to produce a prejudiced and unjust impression upon the judge and the jury, who could not be supposed to understand all the intricacies and delicacies of medical questions. Whoever had read the verbatim report of the recent trial at Chester must have arrived at the conclusion that Dr. Waters had not only escaped from an atrocious and abominable charge attempted to be made against him—a charge described by the judge as nothing less than one of rape—but that he had also shown by his conduct, which had undergone the most searching investigation before a legal tribunal, that he had acted throughout as a physician with the purest possible motives, and with the kindest consideration for his patient. Notwithstanding, however, the triumphant result of the trial, there was a time during the ordeal when his case was placed in the most imminent peril. And how, from, and by whom? By the medical evidence that was offered on the part of the prosecution. The learned judge told the jury that if they believed the evidence of Drs. Lee and Ramsbotham that the treatment was improper, it would "enormously corroborate" the case against Dr. Waters. Now, when they considered the consequences which would have resulted from an adverse verdict, they could not but think that had not Dr. Simpson been able to contradict the evidence of these medical witnesses, Drs. Lee and Ramsbotham would not have had so fortunate an escape from a result which would have filled the rest of their lives with self-accusation and remorse, from the consciousness of their having been the main instruments in consigning an innocent and honourable man to infamy and ruin. In order to illustrate more clearly the character of the evidence of Drs. Lee and Ramsbotham, Mr. Steele pointed out that, under all circumstances, when the propriety or impropriety of medical treatment was canvassed by medical men, it had been hitherto deemed contrary to medical etiquette, and injurious to the interests both of medical men and patients, to give an opinion upon a case which had been under the care of another medical man without the presence of that medical man himself. Even if they differed from the treatment which had been adopted, and thought it wrong, they would hesitate to condemn it until, at all events, they had held an interview with him, and had heard his own description and explanation of the case at the time he attended it, and also the reasons for employing his treatment. This was the straightforward line of conduct which, from time immemorial, had guided all right-minded men in their dealings with their patients. If, therefore, this was their incumbent duty in a matter which merely involved a question of medical etiquette, what should they say when the consequences ensuing upon the violation of this rule were absolute social death to the party implicated? (Hear, hear.) Then with regard to the way in which this medical evidence was brought forward. It was by the merest accident in the world that Dr. Waters became aware that medical experts were to be called to give evidence against him. Shortly before the trial it appeared that the prosecution desired to have a commission to go to the Continent to take the evidence of a medical man there who had had Mary Whalley under his treatment at Malvern, and, in consequence of this, the solicitor for Dr. Waters obtained information that it was probable that other medical men would be called. When the evidence taken by commission was shown to Dr. Waters by his solicitor, he said—and very properly—"Why, this is the most arrant nonsense ever put upon paper." His solicitor replied—"Never mind: it is the opinion of a medical man—an opinion which is thought of great value by some persons, and therefore it must be answered." Then it was that Dr. Waters considered it necessary to submit this evidence to Professor Simpson, of Edinburgh, who gave him a hint that some medical men in London would be called against him, though Dr. Waters was very hard to convince that it would be so. It was at this time that the guess was made that Dr. Lee was likely to be called, because it appeared that he was in the habit of meeting in consultation with Dr. Gully, of Malvern. They all knew, however, that these gentlemen came down, and they also knew the extraordinary grounds upon which they based their opinions. He (Mr. Steele) need not dwell upon these opinions to show the animosity to Dr. Waters, but he could not refrain from saying that he had heard, upon very excellent authority, that Dr. Ramsbotham himself did not hesitate to aid the counsel in cross-examination, and that Dr. Lee was handing his specula round the court, evidently with the intention of prejudicing the case against Dr. Waters. Surely, after this, it was not too much to say that improprieties of the kind mentioned in the resolution had "culminated at the hands of Drs. Lee and Ramsbotham." (Hear, hear, and applause.) Dr. Ramsbotham had made some sort of an explanation and apology in the public journals, and had told them that if he had heard Dr. Waters' version of the story before he gave his evidence, there would have been very little difference of opinion between them. Well, now, did not this show how completely Dr. Ramsbotham had forgotten that excellent rule to which he (Mr. Steele) had alluded? for, had he adopted that rule, he would never have placed himself in that highly reprehensible light in which he now stood, and which had called upon them to enter their protest against the practice which he and Dr. Lee by their presence at the trial had sanctioned and approved. In conclusion, Mr. Steele pointed out the importance of adopting a resolution which, while asserting the entire innocence of Dr. Waters, would at the same time afford protection to younger members of the profession in the event of their being assailed in a similar manner.

Dr. DICKENSON seconded the resolution, observing that Drs. Lee and Ramsbotham had shown great want of judgment and proper professional feeling; and with regard to Dr. Taylor, though his name had not yet been mentioned, it would be unfair to pass him by. He was not called upon to give evidence in a question of this kind, and he had no business to come down to give evidence upon a subject which was a matter of doubt. The respect which he (Dr. Dickenson) formerly entertained for Dr. Lee had now passed away, and had given place to a feeling of indignation and contempt. (Hear, hear.) With regard to Dr. Ramsbotham, he never had a high regard for him (hear, hear); while to see a man of the high standing of Dr. Taylor giving his sanction to a procedure of this description, was woful. (Applause.)

Mr. PARKER, while concurring in the observations which had been made by previous speakers, was anxious to make a suggestion which this trial had brought to his mind, and which

was also warranted by the frequency of similar trials—viz., that the time had arrived when the medical profession might very seriously take into consideration the propriety of forming a "Medical Defence Association," in order that the expenses of such proceedings might be met without harass and ruin to individuals.

Mr. STEELE was afraid that the establishment of such an association would give the public the idea that the profession feared and expected these actions, and that it would also have the effect of inducing juries, if the verdict happened to be against the medical man, to give heavy damages, because payment would fall upon the society and not upon the individual. He would rather take his stand upon the dignity and honour of the profession, and fight the battle single-handed, as Dr. Waters had done, throwing himself upon the sympathy and consideration of the profession if necessary. (Applause.)

The resolution was then put, and carried unanimously.

Mr. FLETCHER moved the third resolution:—"That this meeting recommend that a subscription be opened with a view of indemnifying Dr. Waters for any pecuniary loss he may have incurred in conducting his defence, and for the further purpose of presenting him with some lasting memorial of the high approbation with which they have regarded the dignified fortitude of his bearing under the prolonged persecution to which he has been subjected." He (Mr. Fletcher) proposed this resolution with peculiar pleasure, seeing that he had known Dr. Waters for thirteen or fourteen years. He knew him in Paris and Vienna, and he knew then, and had known since, no man in whose character he had greater confidence, who was more thoroughly a gentleman and a Christian, and whose mind was more accomplished and delicate. As far as he (Mr. Fletcher) had had an opportunity of judging, Dr. Waters was about the last man of all his acquaintance against whom he should ever have imagined such a foul accusation would have been launched. Coming to the pounds, shillings, and pence part of the resolution, Mr. Fletcher said he believed that they should do a great deal of good by subscribing to pay whatever expenses Dr. Waters might have incurred. He would not accept anything more than the amount he was out of pocket by the proceedings, but it would be gratifying to his own feelings and the feelings of his friends to have something as a memorial, not only that they considered him innocent, but that he had acted in a way which they regarded as meritorious, and had resisted temptations under which many men would have fallen. (Applause.) Dr. Waters had throughout strongly resisted, first the offer of private investigation, then reiterated offers of compromise, and had stood entirely upon his right; and from the very first step he took in his course to its triumphant termination he had been guided by a firm consciousness that he was in the right, and that "God would defend the right." (Applause.) With regard to the costs incurred, he (Mr. Fletcher) knew that £500 had been paid by Dr. Waters before he went into court, but he did not know how much of this sum would go under the head of "taxed costs." From all he had heard, however, on the subject, he believed that the taxed costs paid to the victor in a case such as this bore but a small proportion to the real costs, or actual amount which a person was out of pocket, even where he came off victorious. With regard to the subscription itself, he (Mr. Fletcher) would rather see a large number of small subscriptions than a few large ones; for the great value of the money was this, that the public would look upon it as a real, honest manifestation of their belief, not only that Dr. Waters was innocent, but that his conduct throughout the whole matter had been marked by very high merit. (Hear, hear.) Then there was another point. They must remember the awful suspense in which Dr. Waters was kept between six o'clock when the jury retired, and somewhat after midnight when they returned with their verdict. Upon that jury they knew that eleven were wise, and that one was "otherwise;" and so it was in general society. Some people were stupid enough, and others base enough, to believe any accusation, however absurd; and it was therefore no mere sentimentalism, but was a point of real and practical value, that they should come forward, not only with their resolutions, but also with what money might be wanted to make up Dr. Waters' pecuniary loss, and to present him with something which he would leave to his children as a practical proof that not only his professional brethren in Chester and elsewhere, but those who knew his character and standing, believed him to be thoroughly innocent of the charges brought against him. Whatever they did, they could never undo the ill which had been done—never give him back anything which would make up for the agony through which he had passed; but they could do something to replace a sense of wrong by the expression of their cordial sympathy. (Hear, hear, and applause.) To say that the injury to Dr. Waters was due to a few gossiping old women, and tittle-tattling dowagers of Chester, was not true. The real venom had come from their own profession. A weak and dirty weapon had been chosen, but a very little poison placed upon it by Drs. Lee and Ramsbotham might have made it effective for the work of destruction. What would Mary Whalley have been without Drs. Lee, Taylor, and Ramsbotham? Who gave the instructions to Serjeant Shee? They must have been given by a medical man. (Hear, hear.) The animus of the instructions as to the charge relative to the speculum could have come only from Dr. Lee, aided by Dr. Ramsbotham, and the suggestion as to the drugging must have been known to Dr. Taylor. It must be remembered that these gentlemen had been for months in consultation with the lawyers, and that, whatever they might have said, actions spoke louder than words. (Hear, hear.) Though Dr. Ramsbotham might have advised in so many words that they should not bring the action, he advised in deed that they should. He (Mr. Fletcher) was certain that all they could do would be done on behalf of the right cause, and although they could not undo the evil which had been done, they could cordially and thoroughly avow their belief in the complete innocence of Dr. Waters, in order that in future years no doubt might remain upon the case. It was most important, in regard to the future, that Dr. Waters should not only be clearly exonerated by the verdict of the jury, but that his professional brethren should declare that this foul accusation had been thoroughly rebutted, and that there was no man who more completely carried with him the sympathy and best wishes of his friends in the profession. (Loud applause.)

Dr. A. T. H. WATERS, who seconded the resolution, expressed his most cordial concurrence with the preceding resolutions. It was, he thought, very desirable, considering the mental anguish and trying circumstances through which Dr. Waters must have passed, that they should express their sympathy with him, and their congratulations at the successful issue of the trial. It was also desirable to express their reprobation of the conduct of those members of the profession who on this and similar occasions had been willing to lend themselves to those who were attempting to injure the character or ruin the reputation of a professional brother. (Applause.) Though not in any way related to his namesake of Chester, he (the speaker) had known Dr. Waters for several years, chiefly in connexion with the meetings of the British Medical Association. He had known him as President of the Lancashire and Cheshire branch of that Society, and as the reader of the address at the annual meeting of the Association in 1859. He mentioned these circumstances because they might not be known to everyone present, and because they would show the high estimation in which Dr. Edward Waters was held by his professional brethren in the counties of Lancashire and Cheshire. (Hear.) It was very desirable (the speaker thought) to raise a subscription in the terms of this resolution for the purpose of indemnifying Dr. Waters from pecuniary loss incurred in conducting his defence; but they would not be satisfied with doing this merely, but subscribe to present him (as the resolution expressed it) with some lasting memorial of the high approbation with which they regarded the dignified fortitude of his bearing under the painful circumstances in which he had been placed. (Applause.) When they looked at the report of the trial, and read the searching cross-examination to which Dr. Waters was subjected, they must feel not only how ably he had withstood the attacks of the learned serjeant, but that only a feeling of strict moral and professional rectitude could have carried him unscathed through such an ordeal. (Renewed applause.) They ought not, under circumstances like these, merely to express their feelings in words, but to make also a substantial contribution, in order to show the public that on such occasions as this, when a professional brother was unjustly and scandalously attacked, they were prepared to carry him safely through the cost of it. (Hear, and cheers.) The speaker then alluded to the mode in which the medical profession and the public at Chester had come forward, including the highest dignitary of the church, and almost every member of the profession, in order practically to show their sympathy with Dr. Waters, and their high estimation of his character. (Applause.)

The CHAIRMAN mentioned that the sum which the solicitor of Dr. Waters had disbursed was considerably beyond that incidentally mentioned by Mr. Fletcher; and further, that the actual amount of the expenses incurred could not be known until Dr. Waters' bill had been taxed, a form which could not be gone through until next term.

The resolution was then put, and carried unanimously.

After some further discussion, the details as to subscriptions were referred to a sub-committee.

Mr. DESMOND moved that the proceedings of the meeting be forwarded to the London Medical journals for publication.

Dr. CALLON seconded the motion.

On the motion of Mr. HAKIS, seconded by Dr. M'NAUGHT, a vote of thanks was passed to the chair, and the proceedings closed.

MUSICAL SOCIETY OF LONDON.

ON THE INFLUENCE OF MUSICAL AND OTHER SOUNDS UPON THE LARYNX, AS SEEN BY THE AID OF THE LARYNGOSCOPE.

THIS formed the subject of a highly interesting lecture delivered before the Society by Dr. GEO. D. GIBB. The first published notice of the instrument was by Mr. Liston, the celebrated surgeon, in his work on Surgery; but the first person who employed it to study the mechanism of the voice was Professor Garcia, whose researches were brought before the Royal Society in 1855, and published in their "Proceedings." His observations were founded upon the examination of his own larynx during the act of singing. Subsequently, in 1857, Dr. Turck, of Vienna, employed the instrument medically; he was followed by Czermak, Battaille, Merkel, and many others. The lecturer observed that sufficient credit had not been given to Garcia for what he had done, as his researches, although much extended, had not been surpassed, and had been palmed off as their own by some subsequent observers. His great knowledge of music has given to his experiments a value of the highest character, which cannot be too much appreciated. In 1860 Dr. Gibb commenced his researches with the instrument, as an agent to study and understand the hidden diseases of both the larynx and windpipe, and the mechanism of sound, whether musical or otherwise. The results of his labours, together with those of Garcia and Battaille, were embodied in his lecture.

The mechanism of the laryngoscope was described and illustrated by a number of reflecting and laryngeal mirrors, manufactured by Weiss and Son. Their mode of application was shown, whether in looking at the interior of the larynx downwards from the back of the throat, or in seeing the back of the nose from below upwards. The lecturer then proceeded to describe briefly the parts of the larynx seen on looking into it with the little mirror; and this was lucidly done by the aid of a series of large coloured diagrams representing the various cartilages, ligaments, muscles, and membranes entering into its formation. At the bottom of the larynx (which is the prominent cartilaginous box felt in the upper part of the neck externally) is seen an antero-posterior fissure, extremely movable, assuming at times a lozenge, elliptic, or triangular shape, of which the brilliant pearly borders palpitate with surprising rapidity. This is the glottis formed by the true vocal ligaments, or, as they are now generally called, vocal cords. The action of these cords alone gave rise to sound, whether in speaking or singing. The three sets of ligaments attached to the pair of little pitcher-shaped cartilages, called the arytenoid, the lecturer compared to three pairs of reins in tandem driving, which acted almost simultaneously during certain acts, such as coughing and swallowing.

The subject of his discourse Dr. Gibb divided into the silent movements of the larynx, or non-phonatic, and the phonatic, wherein sounds were produced, whether in speaking or singing, either during inspiration or expiration.

There are two manifestations possessed by the ordinary expiratory voice, which have been long known under the names of chest and falsetto register. The head voice, so well known to vocalists, Dr. Gibb was disposed to reject in his experiments equally with Battaille as opposed to anatomy and physiology. Its range, laryngoscopically, so to speak, is shown by Garcia in his writings.

A series of experiments were now detailed illustrating the determination of the chest register. They consisted of the production of certain sounds of the diatonic scale, and the behaviour of the glottis was carefully noticed and pointed out in the diagrams. The mechanism of the elevation and lowering of sound was next considered, and equally illustrated by extremely interesting experiments and diagrams. In the chest register, the vocal cords vibrate throughout their whole extent —namely, in their subglottic region, their ventricular region, and on their free border; longitudinal tension is generally stronger than in the falsetto register; and the vibrations become more rapid and ample in proportion as the sound becomes more acute; the reverse takes place when the sound becomes more grave—the opening of the glottis is rectilinear.

Experiments were related wherein the proceeding was taken advantage of to alternate the production of the same sound in the chest voice and falsetto voice by means of an uninterrupted current of air—to study the inherent glottic modifications of the falsetto register in general. The phenomena resulting from these, as seen in the laryngeal mirror, were described, and are full of interest to the vocalist. The results went to show that in the falsetto register the vocal cords vibrate only on their free border and their ventricular region. The subglottic region, which plays such an important part in the chest register, here ceases to take any direct part in the generation of sound. Longitudinal tension is feebler than in the chest register, and the vibrations become less ample and more rapid according as the sound becomes more acute; but when more grave the reverse takes place. The opening of the glottis is more or less elliptic in accordance with the nature of the voice and the size and density of the vocal cords themselves.

The lecturer proceeded to notice some of the other phenomena of the voice, including that of inspiration; the last very difficult to investigate from the pain produced in its manifestation. It is only by the aid of the falsetto register that the inspiratory notes can be obtained, and the glottis is more open than in the expiratory sounds of this register. In the general summary of laryngoscopic observation, besides the phenomena peculiar to each register, it was shown that there were some common to both; thus the generation of vocal sound never occurs without the vocal cords being stretched and vibrating wholly or in part. The closure of the glottis behind occurs up to certain tonal limits, and is indispensable to the brilliancy and elevation of sound. The *false* vocal cords take no part whatever in the generation of sound.

Professor Garcia had previously pointed out that the formation of sounds in either register was produced, not from the actual vibrations of the whole or part of the vocal cords, but from the successive explosions which they allowed. Dr. Gibb said his lecture would have been incomplete without a few words upon the *formation of the voice*. The vocal cords at the bottom of the larynx exclusively gave rise to the voice, whatever may be its register or intensity, because the laryngoscope has shown that they alone vibrate in that situation. To one of the Fellows of the Musical Society, Professor Garcia, we were indebted for what the lecturer considered as the true and correct explanation of the formation of the voice. It originated from the compression and expansion of the air, which gave rise to successive and regular explosions in passing through the glottis. The ligaments of the glottis or vocal cords close the passage, and offer a resistance to the passage of air. As soon as the air has accumulated sufficiently, it parts these folds and produces an explosion. But at the same instant, by virtue of their elasticity, and the pressure from below being relieved, they meet again to give rise to a fresh explosion. A series of these compressions and expansions, or of explosions, occasioned by the expansive force of the air and the reaction of the glottis, produces the voice.

The sounds "ha! ha! ha!" in laughing, offer a familiar illustration of rapid explosions occurring in succession by the opening and closing of the glottis, and form a striking picture in the laryngeal mirror. The quality of the voice is now proved to depend upon simple changes in the mechanism of the larynx. The waves of sound generated by the larynx in the column of air contained in the trachea, produce, in a word, vibration of the cords. If they cannot be excited, then sounds are extinguished, and the result is what the lecturer saw instances of almost every other day—namely, aphonia, or loss of voice.

Such were the results obtained by the aid of the laryngoscope. They were but an instalment of what was promised by future observation and experiment in the hands of those members of the lyric art who would devote their energies to the task. From what had been described, Dr. Gibb remarked, it would be readily comprehended that the slightest deviation from the healthy standard would materially affect intonation, more especially anything that influenced the *tension* of the vocal cords. Vocal tension, so to speak, must be uniform and equal on both sides—that is, both cords must be equally and simultaneously influenced by the little cartilages called the arytenoid, which govern and direct the three pairs of reins noticed in the early part of this lecture.

Setting aside altogether in his lecture the notice of any morbid phenomena which affected the voice, the lecturer requested permission merely to refer to the cause of failure, partial or complete, of a portion of the notes of the diatonic

scale—whether the middle, the higher or the lower, or the junction of either—as revealed by the laryngoscope. This, he said, would be found to depend chiefly upon inequality in the power of tension of the two vocal cords; that is to say, whilst one cord would become stretched to its required length during the utterance of the middle or higher notes, the other did not become so in an equal ratio—hence the parallelism and symmetry so essential to perfect harmony in singing became imperfect. Dr. Gibb claimed to himself the credit of being the first to point out this important fact. He then referred to the condition of the epiglottis, and denied that the loosening of this cartilage could be accomplished at the will of the singer, as was supposed by some. The reason of this was given, and measures to remedy it referred to.

In conclusion, Dr. Gibb stated, that without any pretensions at all as a vocalist, he had performed various experiments with the view of understanding the cause of defective voice; but the interest of the subject grew upon him, and induced him to go more fully into it. Some of the results of his labours he had ventured to bring before them.

An interesting discussion followed, in which Professor Garcia, Mr. Charles Salaman, Mr. Tracy Osborn, the chairman, Mr. Godfroi, and Dr. Richardson, took part. The question of the mental faculties in relation to the physical in vocalism, formed the main topic of the debate.

Correspondence.

"Audi alteram partem."

TREPHINING IN CASES OF FRACTURE OF THE SPINE.

To the Editor of THE LANCET.

SIR,—In an appendix to my work on the Central Nervous System,* I have tried to prove that in cases of fracture of the spine trephining and other operations for the removal of pieces of bone pressing upon the spinal cord might be employed with great benefit to many patients. This view is based upon many experiments I have made on animals, and on sixteen or seventeen cases in which the operation has been performed on man.

A paper recently published in the United States† by Dr. H. A. Potter gives additional facts on that subject, which I think deserve to be mentioned. The paper is entitled "Operation for Compression of the Spinal Cord." Two new cases are reported by the author, who had already published one twenty years ago.‡ One of the new cases is that of a Mr S——, who had a fracture of the vertebræ in the inferior cervical region. The patient was unable to move the body or the extremities, except the hands. Sensation was as imperfect as motion. It was decided to operate. The spinous process of the sixth cervical vertebra was found fractured and displaced, and the arch of the fifth crushed in upon the spinal cord, nearly separating it longitudinally. All that portion comprised in the lamina and spinous process of the fifth and the spinous process of the sixth cervical vertebræ was removed on the 9th of October, 1859. A few months after, the wound was nearly healed, and the patient, who was as comfortable as could be expected, could sit in an easy chair, could readily move his head, and could converse as freely as anyone. He had, however, gained nothing as regards sensation and motion, except that he could use his left hand a little more freely than before. In November, 1862, the condition of the patient remaining the same, Dr. Potter operated a second time, and removed parts of the fourth, sixth, and seventh vertebræ. The cord had not united; it was much flattened and thinned. Two months after it was found that no benefit had been derived from the second operation.

In the second new case mentioned by Dr. Potter the posterior portions of the three inferior cervical vertebræ were removed. The patient died on the fourth day, and the autopsy showed a fracture of the left parietal and occipital bones, and a large clot of blood round the medulla oblongata.

To those medical men who know that death is almost certain in cases of fracture of the spine in the cervical region, it will be apparent that the operation in the first of these two cases saved the life of the patient.

If we add these two cases to those analyzed in my work, we find that out of eighteen or nineteen cases in which the operation of trephining or removal of pieces of bone after a fracture of the spine, the life of four or five patients has been saved by the operation—i. e., about twenty-five per cent. This great per-centage of persistence of life, compared with the per centage where no operation has been performed (perhaps less than one per cent.), shows clearly the importance of such surgical interference in cases of fracture of the spine in the cervical or the upper dorsal region.

I have been accused* of omitting "to inform (my readers) how the patient, *thus all but completely decollated*†—the muscles of the neck extensively cut, the vertebræ deprived of their posterior arches, their bodies broken across, and the ligaments between them ruptured—should be able to hold up his head, or prevent its rolling to and fro so as to crush the cord." It seems to me that in my work I have given reasons enough to show, and facts enough to prove, 1st, that the laying bare of the spinal cord is not a dangerous operation; 2nd, that death after a fracture of the spine being usually due to the effects of a pressure upon, or of some irritation of, the spinal cord, it is of the utmost importance to remove the pressure and to diminish the causes of irritation; 3rd, that reunion may take place after a wound of the spinal cord; 4th, that the removed parts of the spine may be replaced by new bone; 5th, that no patient seems to have derived any harm from the operation, and that a great many have derived from it either a temporary or a permanent benefit.

As regards my "omission" to inform your readers how the patient could hold up his head, I never dreamt, I confess, that any medical man could possibly ask such a question, and I still think it is at least useless to give it an answer.

I will only say one more word: Here is an operation recommended by men who are not physicians or vivisectionists like me, but surgeons of the greatest eminence, such as Louis, Henry Cline, Tyrrell, Chelius, Mr. J. F. South, Sir Astley Cooper, and many others—an operation which has been often performed, with a temporary or a permanent success, but which is, however, neglected by most surgeons and proscribed by some, who criticize it theoretically. Is it not a sad spectacle that there is such a neglect and such a criticism when so much is at stake as the life of many men every year? Sir Astley Cooper said, "The operation is laudable and not severe; nor does it increase the danger of the patient. If we could but save one life in a hundred we would deserve well of mankind." To this I will only add, that the proportion of lives saved is now, not "one in a hundred," but from twenty to twenty-five in a hundred.

I am, Sir, yours &c.,

Cavendish-square, April, 1863. C. E. BROWN-SÉQUARD.

*** The question discussed in this letter by Dr. Brown-Séquard with so much learning and acuteness is one of great surgical importance, although it does not appear to have been much considered by modern English surgeons. The recent terrible accident of Lord Massareene imparts a special temporary interest to the discussion.—ED. L.

DR. RAMSBOTHAM'S EVIDENCE IN THE CASE OF BROMWICH *VERSUS* WATERS.

To the Editor of THE LANCET.

SIR,—I am persuaded you will afford me a small space more in the pages of your very valuable journal, for the purpose of vindicating myself in the eyes of my professional brethren, to procure whose good opinion has been one of my chief objects through life.

In your last number, reverting to the trial Bromwich *versus* Waters, you write—"Dr. Ramsbotham seems to have adopted with less confidence Dr. Lee's views; his evidence was to that extent more trustworthy. Both, however, swore that there had been no previous disease of the womb, thereby affirming that not only was the application of caustic unnecessary, but that the condition sworn to by Dr. Waters had in their opinion never existed."

In the first place, allow me to say that my evidence, as well

* Course of Lectures on the Physiology and Pathology of the Central Nervous System. 1860. pp. 244—260.

† The American Medical Times, Jan. 1863. p. 17.

‡ New York Journal of Medicine and the Collateral Sciences, March, 1844; and my work loc. cit., p. 254.

* See the article of Mr. Alex. Shaw in Holmes's System of Surgery, vol. ii., p. 237.

† The italics are mine.

as Dr. Lee's, was given before Dr. Waters was examined, and, of course, at that time he had not sworn what the condition of the os uteri was when he was treating Mary Whalley, so that we could not have sworn in contradiction to him, as your observations would lead your readers to imply.

Secondly, I must repeat that I never said "there had been no previous disease of the womb," as you affirm, as will be seen by the following extract from the *Chester Record* of April 11th, the only verbatim report of the trial I have met with:—

After telling the Court that I had examined Mary Whalley on Feb. 6th with the speculum, I was asked by—

"Serjeant Shee—Did you find any trace of disease about her womb and mouth of the womb?

"Dr. Ramsbotham—The womb and mouth of the womb were as healthy as I ever saw the organ in my life.

"Serjeant Shee—If there had been an actual ulcer, there would have been left a trace?

"Dr. Ramsbotham—If there had been a deep ulceration on the substance of the womb, there would have been a cicatrix, a scar.

"Serjeant Shee—If there had been mere excoriation, there would not?

"Dr. Ramsbotham—Most likely not. The mucous membrane is so reparatory, that it soon loses all trace."

Again:—

"Serjeant Shee—Supposing there to be nothing but excoriation, in your judgment would it be advisable to use it (i.e., the caustic) for any length of time?

"Dr. Ramsbotham—I should say, generally speaking, that superficial ulceration gives way to six or seven applications of caustic, once or twice a week. I do not think I ever used it more than six or seven times in any case of ulceration of the kind I am speaking of.

"Serjeant Shee—Supposing it were found that a person—

"Dr. Ramsbotham (interrupting)—Will you allow me to make an addition to my last answer?—namely, that the complaint of superficial ulceration has a great tendency to recur, and it is possible that within a month or so there may be another ulcer which may require further treatment."

No more questions were asked me about ulceration of the uterus.

In regard to my appearance at the trial, it came about in this manner. A gentleman whose face I fancied I had some recollection of, and whom I at first took to be a medical man, called on me and asked me three or four medical questions. A few days after, I received a request to make an appointment to meet a certain physician in a street in the Strand. On keeping the appointment, I found, not the physician who had been named to me, and who I understood could not attend at that hour, but Dr. Lee, who told me he had seen the patient a few days before. There were also present the gentleman who had called on me, and an elderly lady. I examined Whalley in Dr. Lee's presence, and on my expressing my surprise to him that we should have been called to see a patient who appeared to me to be in very good health, I believe he informed me that there was a trial pending, but he did not give me the particulars. My examination of her person took but a very few minutes, and on our return to the sitting-room the gentleman asked me if there was any disease of the womb, or evidence of there having been any. I replied, "None whatever." I was then told the nature of the trial; and I recommended that it should be abandoned. I said they need not take me down to Chester, for my evidence would not be of any service to them. To this the gentleman present (whom I then knew to be the solicitor engaged) replied, "We must have you, because you can speak as to the state the young woman's womb is in now." This I considered peremptory. I then verbally examined Whalley; and afterwards the case was laid before me in writing. Soon after this interview, Dr. Lee and myself met the counsel (but Serjeant Shee was not present) and the solicitors. On that occasion also I told the counsel my evidence would not serve them at all, and, with Dr. Lee, again urged the abandonment of the case. I was again told that they must have me to speak to the state of the os uteri in February. Our advice was not taken, and the result is before the public.

I am, Sir, yours &c.,

Edinburgh, April 18th, 1863. FRANCIS H. RAMSBOTHAM, M.D.

*** Dr. Ramsbotham believes we have done him injustice in our comments on his medical evidence so recently before the profession. We are quite prepared to accept Dr. Ramsbotham's explanations, and to afford them publicity, should he be of opinion that they can improve his position. We confess to having adopted the view of the very learned judge who with extraordinary care tried this case, and to have inferred from the tone of Dr. Ramsbotham's testimony that it was intended to convey an opinion that Dr. Waters' treatment was improper. Dr. Ramsbotham in his letter published last week says, "With great deference to the learned judge, I must say he misunderstood me." This is a matter on which every professional man of ordinary intelligence can form an opinion for himself. We have no hesitation in inviting attention to Dr. Ramsbotham's examination in detail, nor have we any doubt as to the conclusion in reference to it at which every candid reader must arrive. Dr. Ramsbotham's correspondence is most valuable, and even in the eleventh hour must not be overlooked, inasmuch as, if any absurd doubts still linger in weak minds respecting the propriety of Dr. Waters' treatment, they must be removed by Dr. Ramsbotham's assertion—"It was far from correct (of Mr. Baron Bramwell) to say I expressed an opinion that Dr. Waters' treatment was improper. It must be borne in mind that I had not the advantage of hearing his version of the story before I gave my evidence, as Drs. Simpson, Keiller, Fyfe, and Mr. Brittain had. If that had been so, very little difference indeed would have been discovered between his treatment and my own." Are we to infer from this avowal that, on an *ex-parte* statement, Dr. Ramsbotham consented to appear as a witness in support of the vilest conceivable charge capable of being adduced against a medical man? and that, having heard facts which altered his opinion, he still permitted his evidence to be presented to the jury, without any attempt on his part to modify it, or to declare to the judge that, being in court for the purpose of aiding the cause of truth, he could not remain silent, when, according to his own admission, the "advantage of Dr. Waters' statement" had influenced his judgment? Had Dr. Ramsbotham no means of ascertaining what Dr. Waters' statement would be? We exclude from our consideration all notions of professional courtesy, or that high-minded independence which has led men to refuse to enter, or at least to express their opinions in, a witness-box, unless they were satisfied and fully informed on all the previous circumstances of the case, together with the nature and object of the evidence they were required to give and why it was required, and limit our remarks to the public opportunity of obtaining knowledge which Dr. Ramsbotham was afforded by the opening speech of Mr. Serjeant Shee and the evidence of Mary Whalley. Mr. Serjeant Shee in his address to the jury declared that the action was brought to obtain compensation in damages, &c., through "the misconduct of the defendant;" that he had said, "You have ulcers in the womb; there are only two things to be done—I must either apply caustic to your womb or you must have a husband;"—"that a husband is the last prescription that any medical man would give to a person suffering under an ulcer of the womb or the mouth of the womb;"—"that he forced an instrument up her person for the purpose, as he said, of applying caustic to the ulcer;"—"that the use of it ought to weigh nothing in your estimation against Dr. Waters, unless you find other circumstances in the case which induce you to think he had other than a right motive for using it,"—and many similar observations to the same purport. If, after this address and the examination which followed, Dr. Ramsbotham was not fully informed as to what the statement of Dr. Waters must have been, we can only say that his powers of perception are less acute than those of everyone else present at the trial.

Dr. Ramsbotham's representation of the method and manner by which he was induced to become a witness in this case is, to our judgment, in the highest degree objectionable. The concluding paragraph of the above letter informs us that on the occasion of consultation with counsel before going into Court, Dr. Ramsbotham declared that his evidence would not serve them at all, and, with Dr. Lee, urged the abandonment of the case, and was again told that he would be required to

speak to the state of the os uteri in February. We rejoice to have this assurance that Dr. Lee did then manifest so much feeling on the matter, and deeply regret that during his examination in court no traces of it were discoverable; but for Dr. Ramsbotham, we affirm that his explanation adds additional weight to that which we are disposed to regard as a very serious omission, if not a grave error of judgment. We have heard witnesses, when they had given evidence, address the Court in language somewhat similar to that which Dr. Ram-botham, according to his own admission, might have employed when speaking of the result of his examination. How differently would he now stand with his brethren had he added, "That the appearance then presented was not irreconcilable with a condition which might, according to the circumstances at the time, have rendered requisite the treatment adopted." Such an avowal must, on this as it has done on similar occasions, have elicited the approval of both the judge and the jury. We feel that its recollection would have been a source of congratulation to Dr. Ramsbotham; and we know it would have contributed much to maintain the value of medical testimony as well as the honour of the profession.—ED. L.

MR. ADAMS AND MR. PROPERT.

To the Editor of THE LANCET.

SIR,—I beg to forward to you a correspondence which has recently taken place between myself and Mr. Propert, and upon which it is unnecessary for me to make any comment.

I am, Sir, yours &c,

WM. ADAMS, F.R.C.S.

5, Henrietta-street, Cavendish-square, April 22nd, 1863.

5, Henrietta-street, Cavendish-square, April 15th, 1863.

SIR,—The following quotation is from a letter received from a gentleman occupying a high position in our profession:—

"The sting of the matter is that, spite of the late trial, and notwithstanding the evidence since afforded by Dr. Cottew, Mr. Maitland, Dr. Webb, Mr. Toynbee, and others as to the antecedents of the prosecutor, there are some persons who still adhere to Mr. Propert—who justify him in his apparently harsh treatment of you at the beginning of the affair, when he condemned you unheard, and refused to listen to the explanations you offered him, and who not merely condemn you by implication, but affirm positively as follows—viz., that were Mr. Propert's version of his proceedings made public, he would be said to be entirely justified, and that he is displaying great forbearance towards you in not noticing the attacks made upon him; and that his holding his tongue is safety to you. These latter expressions I have heard this week from the mouth of a personal friend of mine—a man of sense, and one whose opinion I value. He is a friend of Mr. Propert's, and as such believes that Mr. Propert's statement would crush you."

I wish to know whether the statement made in the above quotation be true or false.

Is it, or is it not, true that you are dealing out such insinuations,—or any insinuation whatever against my character?

I must demand a plain and simple answer to this question, and without delay. I am, Sir, yours &c.,

WM. ADAMS.

John Propert, Esq.

6, New Cavendish-street, W., April 17th, 1863.

SIR,—In reply to your letter of the 15th inst., I beg to state that I never heard of the statements alleged to have been made by friends of mine with reference to yourself in your letter referred to, neither do I consider myself in any way responsible for the opinions they may entertain respecting you. I have, however, always felt much regret that a gentleman of your position in our profession should not have availed himself of the proposal by Mr. Johnson, the attorney acting for Miss Russell in the action brought by that person against you, contained in a letter addressed to your attorney dated March 22nd, 1862—namely, "That both the plaintiff and defendant should be examined as witnesses on the trial of that action;" and that such proposal should have been declined by your attorneys in their letter to Mr. Johnson in reply of the 11th of April, 1862.

I remain, Sir, yours &c.,

JOHN PROPERT.

William Adams, Esq., &c. &c.

5, Henrietta-street, Cavendish-square.

SIR,—In my letter of the 15th inst. I asked you a plain question to this effect:—Is it, or is it not true, (1) that you have said you were forbearing towards me by not replying to explanations which have been demanded from you for your conduct towards me; (2) that holding your tongue is safety to me; (3) have you implied that you are aware of allegations injurious to my character, which you withhold out of forbearance to me?

In your reply of the 17th April you do not answer this question; I must therefore repeat my demand for an answer.

You have introduced in your letter a subject totally irrelevant to my question; but I will remind you that however desirous I was to be examined as a witness—and it would undoubtedly have been much to my advantage—the laws of evidence did not permit of it. You might learn this from any solicitor; and if you will refer to the published charge of the Chief Baron, of which I send you a copy, at page 30 you may see that the Judge said, "Miss Russell cannot be examined; nor can Mr. Adams." Mr. Lush in his opening address explained this peculiarity in the law of evidence, and Mr. Serjeant Shee did not suggest that any other course could have been adopted. This, however, is a mere matter of legal procedure that has nothing whatever to do with the question to which, as a member of the same profession, I require a plain and truthful answer. I am, Sir, yours &c.,

WM. ADAMS.

John Propert, Esq.

6, New Cavendish-street, April 22nd, 1863.

SIR,—Having in my letter of the 17th inst. answered the questions contained in your letter to me of the 15th inst., I have no reply to make to your letter of the 18th; and I must decline any further correspondence on the subject of your letters.

I beg to remain, Sir, your obedient servant,

JOHN PROPERT.

W. Adams, Esq.

THE ORIGIN OF SPECIES.

To the Editor of THE LANCET.

SIR,—The question as to the origin of species has now been agitated for many years, and it seems high time that something definite should be arrived at. The author of the "Vestiges of Creation," supported by Mr. Darwin and Prof. Huxley, hold the doctrine of Development—i. e., that the higher species have been developed from the inferior species. This theory I cannot agree to, as the want of all connecting links either in the existing races or the fossil remains of past ages seems to me to be fatal to it.

It is probable that vegetation appeared first on the face of the earth, and that animal life followed it so closely as to be almost simultaneous with it. But as this order of creation is not necessary to the theory I am about to describe, I will not insist on it, but pass immediately to the origin of the animal races.

I believe that every species now existing, or that ever has existed, has come originally from a germ or ovum. This ovum has been formed naturally or spontaneously when the circumstances coexisted which were fitted to call forth such creation. The ovum thus spontaneously produced by nature becomes first a worm or fleshy substance, and afterwards is developed into an animal fitted to reproduce itself.

We see a process of creation something analogous to this going on before our eyes in the case of insects. These creatures seem to be produced spontaneously, ova being formed on the ground or on the branches of trees or shrubs which readily take the form of grubs and caterpillars. These give birth to flies and butterflies, with heads, limbs, and organs as complete as in a bird or quadruped. Here there is no development such as that which makes a man go through all the stages of a worm, an insect, a fish, a fowl, and an ape, as contended for by the author of the "Vestiges." If it be said that there is no proof that these insects have not been generated by eggs laid by a previous generation, I answer that the probability of such being the case is to all who have studied natural history a very small one.

Again, if I am asked where the original ovum gets its life, I answer that we know from observation that grubs, locusts, and other insects are often formed by myriads in a single night, which goes far to prove that life readily commences in nature where no life was before.

The actions of matter are endowed with an infinite variety of properties or laws, which are treated of by chemists under the general term of "polarization." These laws are brought into operation and developed by circumstances. Bring certain combinations together, and vegetable matter will be produced; and bring that vegetable matter into connexion with mineral matter, and animal life is produced.

If we dissolve a substance and allow it to crystallize, we get crystals of every shape, size, and description; and if we silverize a plate of copper, we shall find the forms of leaves, trees, and shrubs imprinted on the metal, which shows the tendency of mineral matter to run into vegetable matter, and this result is no doubt effected by the polarization I have spoken of. I believe that no representative of animal structure has been obtained in this manner, and for that reason among others I am inclined to say that animal life begins with vegetable life.

Should it be said that my theory ignores the act of God in the creation of the animal world, I answer in the negative. Polarization may be considered not only the origin of life, but the essential attribute of Deity; for all things—even rude matter itself—have come from God. But as I have entered very fully into this part of the subject in my work on the "Philosophy and History of Civilization," to which I must refer your readers, I will not enlarge upon it here.

If I am now asked why we do not see fishes, birds, animals, and men spontaneously produced at the present time as I have supposed them to have been produced in the geological periods of bygone ages, I answer that the circumstances fitted to call forth these superior animals do not now exist, and have not existed perhaps for a hundred thousand years back.

Presuming that the last creations of superior animals and men took place in the period of the London Clay—which is more than probable, as shown by Sir Charles Lyell in his recent work on the "Antiquity of Man,"—let me ask, what was the state of nature then, compared with what it is now? In the London Clay period the climate was hot all over the globe; for we find the remains of elephants, apes, and other tropical animals in Lapland and Siberia. This great heat, in connexion with a thick atmosphere highly charged with oxygen and carbon, and tropical rains, untempered by cold winds or frost and snow, would produce an amount of vegetation which must ever be incomprehensible to us who have no experience of such a state of things in any part of the globe. This state of nature gave rise to creations of men and superior animals which the present state of things is quite incapable of producing.

Although heat and moisture are the great agents for the production of life, they are nothing more than agents; for life itself comes, as I have said, from the polarization of nature.

Such is my theory of the origin of creation, and I shall be glad to hear the opinions of any of your numerous readers on the subject.

Yours very respectfully,

Sloane-street, March, 1863. A. ALISON.

VALUE OF ALKALIES IN RHEUMATISM.

To the Editor of THE LANCET.

SIR,—I hope you will make room for a few explanatory observations, which are called forth by the letter of Dr. Fuller in your journal of the 21st ult. On the 7th of March I received a letter from an old professional friend, dated March 6th, in which he says:—

"I do not know whether you have seen some remarks by Dr. Fuller on the preventive power of alkalies in rheumatic cardiac complications. Recollecting the trouble you took with respect to these subjects in former years, and seeing no allusion to your name, I wrote a letter to THE LANCET, signed 'M.D. Retrospiciens.' Very possibly Dr. Fuller may not have read your observations on these subjects; but nevertheless I thought it but right to state your priority of claim. I trust this will not annoy you, as I thought it was but doing justice to you.

"I am, Sir, your obedient servant,

"E. P. HOUGHTON, M.D.,

"Formerly of Clay Cross, Derbyshire."

I had never seen Dr. Fuller's book and observations, of which, until Dr. Houghton wrote to me, I knew nothing. For many years before 1844 I had been deeply and painfully impressed with the sufferings (chiefly of the poorer classes) from heart disease, caused by rheumatism, and, reflecting on the deficiency of alkalies in the body, rendered evident by the appearance of free acids in the secretions and excretions, and also on the normal alkalinity of the blood, preventing an undue predominance and probable deposits of fibrin, I tried alkalies *perseveringly*, as likely to correct the abnormal state. For years after this treatment I had not—nor have I up to the present time—met with one case of rheumatic fever in which disease of the heart occurred. I then published two articles in THE LANCET, in 1844, and they attracted some attention. Dr. Wilson, of St. George's, wrote to object that I had not given analyses of rheumatic blood, which I assuredly should have done had I possessed sufficient knowledge of practical chemistry; so I published the articles with a "valeat quantum," regretting my inability to analyze. Since then my views and opinions have been corroborated very strongly by Drs. Wright, Garrod, and others.

In 1845, Dr. Fuller says he first had recourse to full and repeated doses of alkalies and neutral salts, less than a year after my articles in THE LANCET. In 1845, I published and advertised my book on "Diseases of the Heart, and the Use of Alkalies in Rheumatism as Preventives of Cardiac Mischief," wherein were "details of treatment," and something more than a mere "foreshadowing of the results of treatment" elaborated in Dr. Fuller's work on rheumatism, since my opinions and reasons were very distinctly, very fully, and decidedly there laid down. Yet, notwithstanding these dates, it appears Dr. Fuller never read my observations or book, and had (in not merely a "clinical lecture," but in a treatise on the subjects), published a monograph on them, without any allusion to my previous labours; and my friend thought I ought not to be so passed over.

These are the simple facts.

Let me, in conclusion, express the pleasure I feel on seeing the alkaline treatment of rheumatism now generally prevalent as a cardinal point of treatment, confident and hopeful as I am that much suffering and misery may be thereby prevented, and that the greater the number of medical practitioners who prescribe alkalies may be, the greater will be the accruing benefit.

I am, Sir, your obedient servant,

J. J. FURNIVALL, M.D.

Alexander-street, Westbourne-park, Bayswater, March, 1863.

THE WAKLEY TESTIMONIAL.

AT a meeting held at the house of Mr. Hancock on the evening of the 20th current, the Hon. Secretary (Mr. D. O. Edwards) presented a report on the past proceedings. This report stated that some practitioners of the metropolis had thought it desirable that some testimonial should be presented to Mr. Wakley, as an acknowledgment of his great public services. This proposition was widely accepted by the medical profession, and two hundred influential gentlemen formed themselves into a general committee for the purpose of carrying it out. It was resolved that a suggestion should be made for the limitation of the subscription to two guineas individually, which had the effect of materially curtailing the amount. A meeting was held, at which highly complimentary resolutions were passed and subscriptions were received.

The auditors' report was read, vouching the accounts.

The following resolutions were then passed:—

1. "That the report read be adopted, and that the funds collected be offered to the University of London, to be vested in trustees, and for the purpose of founding an annual Medal Prize, to be called the Wakley Medal, and to be given to the candidate for the M.B. degree of the University of London who shall show the greatest proficiency in Medical Jurisprudence."

2. "That the Chairman, Treasurers, and Secretaries be requested to confer with the authorities of the University of London on the above subject."

3. "That the members of the General Committee and all others who have promised subscriptions be requested to forward the same, and that further subscriptions be received up to May 30th, after which date the lists will be closed. Subscriptions may be paid to the above account at Messrs. Drummond and Co., Charing-cross, or to the Treasurers, Dr. Forbes Winslow, Cavendish-square, and Mr. Godrich, Thistlegrove-house, West Brompton."

4. "That the thanks of the meeting be given to the Treasurers and Secretaries for their exertions in promoting the movement, and that those thanks are especially due to Mr. Godrich and Mr. D. O. Edwards, by whose exertions it has been chiefly advanced."

5. "That the thanks of the meeting are due, and are hereby tendered, to Mr. Hancock, the Chairman of the present meeting, for his courteous and dignified conduct in the chair."

UNIVERSITY OF ST. ANDREWS.—The examination for the degree of Doctor of Medicine will take place on Monday and Tuesday next, the 27th and 28th inst.

Medical News.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.—At a general meeting of the Fellows held on the 20th instant, the following gentleman, having undergone the necessary examination, was duly admitted a Member of the College:—

Peter Daniel Anthonisz, M.D. St. Andrews, Ceylon.

At the same meeting, Edward Nolloth, previously an Extra Licentiate of the College, was also admitted a Member.

Also at this meeting the following gentlemen, having undergone the necessary examination, and satisfied the College of their proficiency in the Science and Practice of Medicine, Surgery, and Midwifery, were duly admitted to practise Physic as Licentiates of the College:—

Adams, Thomas Rutherford, Kilmoganny, Co. Kilkenny, Ireland.
Barber, Henry, M.D. St. Andrews, Ulverstone, Lancashire.
Bishopp, James, Lawn-place, South Lambeth.
Blunt, Thomas, Wigston Magna, Leicester.
Boulland, Alfred Brocard, Merthyr Tydfil, South Wales.
Campbell, Hugh, St. Paul's-grove, Canonbury.
Carter, Thomas, Richmond, Yorkshire.
Ellerton, John, M.D. St. Andrews, Wakefield, Yorkshire.
Forshall, Francis Hyde, Woburn-place, Russell-square.
Harley, Edward, King's College.
Ilott, Edward, Bromley, Kent.
Lyle, Thomas, Stratton, Cornwall.
Mackintosh, Hugh Richard Duncan, the College, St. Barthol. Hospital.
Rawlins, William Peter, M.D. St. Andrews, Francis-terrace, Kentish-town.
Reynolds, John, Truro, Cornwall.
Roberts, John, Kidwelly, Carmarthenshire.
Steward, Joseph Septimus, Ensemere-hill, Cumberland.
Wiltshire, Alfred, M.D. St. Andrews, Malvern, Worcestershire.

ROYAL COLLEGE OF SURGEONS OF ENGLAND. — The following gentlemen, having undergone the necessary examinations for the diploma, were admitted Members of the College at a meeting of the Court of Examiners on the 21st inst.:—

Atkinson, Charles Stephen Abbott, Norwich.
Barrett, John, Bath.
Carter, William, Newbury, Berkshire.
Collins, Denis, Liverpool.
Etheridge, Charles, Stoke Ferry, Norfolk.
Evans, Thomas, Llandyssil, Cardiganshire.
Everitt, Herbert, Norwich.
Evershed, Arthur, Arundel.
Ferris, John Spencer, Bradford-on-Avon, Wilts.
Freeman, Samuel George, Stoney Stratford.
Hall, Samuel, Belper, Derbyshire.
Hobbs, Henry Addison, L.S.A., Croydon.
Jeaffreson, Christopher, Leamington.
King, George, Leckford, Hants.
Moore, Harry Gage, Lymington, Hants.
Newman, Anthony John, L.S.A., Newport, Monmouthshire.
Quarrell, William, Weston-super-Mare.
Reynolds, John, L.R.C.P., L.S.A., Truro, Cornwall.
Simpson, John Henry, Marksbury, Somerset.
Spencer, Herbert Morris, Ackworth, Yorkshire.
Thomas, David Howell, Swansea.
Tucker, Frederick John, Milton-street, Dorset-square.
Wearing, Albert, Oxford.
Wigg, Thomas Carter, East Dereham, Norfolk.

At the same meeting of the Court, Messrs. Robt. Edwardes and Henry Hadlow, of the Royal Marine Infirmary, Woolwich, passed their examinations for Naval Surgeons; these gentlemen had previously been admitted Members of the College, their diplomas bearing date respectively May 4th, 1857, and June 24th, 1859.

The following gentlemen were admitted Members on the 22nd inst.:—

Bevins, Charles, M.D. St. Andrews, Sydling, Dorsetshire.
Bowie, Robert, Hull.
Carter, Thomas, L.R.C.P. and L.S.A., Richmond, Yorkshire.
Eddowes, Arthur Benjamin Jackson, Loughborough.
Fagge, Frederick Thomas, Hythe, Kent.
Frankish, John David, Christchurch, New Zealand.
Gill, William, Truro, Cornwall.
Good, Joseph, Watford, Herts.
Greweock, John Bailey, Folkingham, Lincolnshire.
Henson, Sidney Russell, Hull.
Mackintosh, Hugh Richard Duncan, L.R.C.P., Cheltenham.
Martindale, John Walker, Windermere.
Mason, Thomas Edward, M.D St. Andrews, Deal, Kent.
Medwin, Aaron George, M.D. St. Andrews and L.S.A., Blackheath-road.
Milner, James Forman, Hull.
Moore, John New, Moreton-in-the-Marsh.
Nash, Walter Llewellyn, Cheltenham.
Ringrose, Basil, Potter's Bar, Middlesex.
Rumboll, Walter, L.S.A., Ramsbury, Wilts.
Thurston, Edward Whitfeld, Ashford, Kent.
Whitehead, John, M.D. St. Andrews and L.S.A., Preston, Lancashire.
Wood, John Hurd, Notting-hill.
Woodman, Samuel, Finchley-road.

MR. HEATHER BIGG has been appointed Anatomical Mechanician to H.R.H. the Prince of Wales.

THE KENT LUNATIC ASYLUM at Maidstone is about to undergo various important improvements.

VACCINATION IN THE POST-OFFICE.—We understand that Dr. Waller Lewis, the Principal Medical Officer of the Post-office, has, on account of the great prevalence of small-pox in London and the suburbs at the present time, recommended that all the officers who have not taken the disease naturally, or who have not been vaccinated recently, should be advised to get themselves revaccinated; also, that his Lordship the Postmaster-General has sanctioned this recommendation. We are of opinion that this example should be followed in all public and private establishments where large numbers of persons are employed.

TESTIMONIALS.—On the 9th instant, Mr. Turner was presented, at Edinburgh, with a handsome claret-jug and two silver salvers, with the following inscription:—"Presented to William Turner, M.B. Lond., F.R.S.E., F.R.C.S. & L., on the occasion of his marriage, by his old and present pupils, as a mark of their esteem for him as their teacher and friend." An address was also presented at the same time, with a list of the subscribers, in number 160.

Six thousand pounds have been raised by the citizens of Glasgow as a testimonial to Dr. Strong, the city chamberlain.

WE are glad to learn that Dr. Priestley has recovered from the attack of diphtheria which he contracted in the course of his professional duties.

LUNACY IN FRANCE.—Cases of lunacy are becoming alarmingly frequent in France. It appears from official documents that the number of lunatics in France, which a few years since was 12,000, has at present increased to 60,000.

ARMY MEDICAL SCHOOL.—The sixth session of the Army Medical School was commenced at the Royal Victoria Hospital, at Netley, on the 15th inst., by an address from Professor Longmore. On account of the unfinished state of the rooms, the lecture was a private one, and was attended only by the staff of the hospital, including Col. Wilbraham, C.B., the Governor; Dr. Anderson, Principal Medical Officer; Major Ravenhill, Commanding Engineer; Major Rawlings, Major Kennedy, the Rev. H. Crozier, &c., and the Professors and other medical officers of the hospital, and some of their private friends. The new theatre is a well-lighted, handsome room, and the libraries and museums will, when finished, be well arranged and convenient. Regret was expressed that on this first opening of the school it was impossible to carry out the intention which had been formed to invite the professional brethren of Southampton and its neighbourhood to attend the lecture and inspect the school and hospital arrangements. But it was found to be impossible in the time to complete the rooms sufficiently. There are now about 300 patients in hospital, and about 1000 more are expected to arrive before the middle of May. So far everything has gone on well at this new hospital; all the staff are co-operating cordially together, and the difficulties inseparable from the first organization of so large an establishment have been overcome most satisfactorily. After Mr. Longmore's lecture was over, the Governor (Colonel Wilbraham) made a few remarks of a very gratifying nature to all the medical officers. His observations evinced not only an earnest intention on his own part to make every effort for ensuring the welfare and comfort of the invalids, but also expressed a desire to promote, by all means in his power, a cordial feeling among the members of the staff of the hospital, military and medical, engaged in the same important work. We hope that Colonel Wilbraham's wishes may be accomplished, and, to use his own words, that the Royal Victoria Hospital may be for medical officers what Woolwich is for the Artillery—a permanent head quarters; that it may be regarded by all who pass through it with affection and pride, and thought of as a home which, whenever the Service permits, they may look forward to revisit with pleasure and satisfaction.

CONSUL FOR LIBERIA.—The Queen has been pleased to approve the appointment of William Henry Brown, M.D., as Consul at Torquay for the Republic of Liberia.

MEDICAL MISSION TO CHINA.—Dr. William Gauld is about to proceed to China under the auspices of the Aberdeen Branch of the China Mission Association.

COAL-TAR COLOURS, tracing their preparation from the coal to the fabric, formed the subject of an interesting lecture before the Marylebone Literary and Scientific Institution, by Mr. Phythian Tarner, on the 20th inst. It was illustrated by the various chemical products obtained from coal, together with different fabrics dyed of mauve, magenta, and other colours. The former were shown chiefly by the aid of the lime-light, and the experiments were very successful.

THE WINDSOR ROYAL INFIRMARY.—This institution was honoured with a visit by her Majesty and the Princess of Wales on Tuesday last, when they were received by Mr. Blair, the House-Surgeon, and conducted over the establishment, with which the Royal party was much pleased, the Queen especially taking a great interest in some of the unfortunate cases submitted to her notice.

CAMBRIDGE MEDICAL EXAMINATIONS.—The examinations for medical degrees in the present term will commence on Monday, June 1st. The classical subjects for examination for the M.B. degree are—Hippocrates, the 1st, 2nd, 3rd, and 4th sections of the Aphorisms; Aretæus, "On the Causes and Symptoms of Chronic Diseases," the 1st, 2nd, 3rd, 4th, 5th, 6th, and 7th chapters of the first book; Celsus, the first and second books.

BIRTHS IN 1861.—The births of 696,406 children were registered; 355,972 were boys and 340,434 were girls, or in the proportion of 104·6 males to 100 females. These numbers are exclusive of still-born, which are not registered. The birth-rate was 3·461 per cent. of the population, or one birth to every 29 persons living. It was higher than the mean rate, which is 3·318, or one in 30.

DEATHS IN 1861.—The deaths of males were 222,281; those of females were 212,833; total, 435,114. The death rate was 2·163 per cent. The mean death-rate of 1852-61 was 2·221 per cent.

ROYAL INFIRMARY, EDINBURGH.—We understand that Dr. John Struthers has just resigned his appointment as one of the surgeons of the Edinburgh Royal Infirmary, on account of the occupation of his time with his anatomical duties.

THE LATE DR. FOWLER, OF SALISBURY.—This gentleman, who for many years practised in that place, has just died at the advanced age of ninety-eight years. He has for twenty years retired from the more active duties of the profession; he, however, honourably passed through a long and arduous practice. He obtained his degree of M.D at the University of Edinburgh in 1793, was admitted a licentiate of the Royal College of Physicians in 1796, and then settled at Salisbury. Dr. Fowler was at once elected Physician to the Infirmary in that city, and continued to discharge the duties of that office with great zeal and ability up to 1847, when advancing years induced him to resign. He was the oldest Fellow of the Royal Society, and was also member of various other learned bodies. His remains were interred at Salisbury on Saturday last, the pall being supported by four members of the profession—John Winzar, John Andrews, G. R. Tatum, and J. A. Lush, Esqrs., the two former being pupils at the Infirmary during the time when Dr. Fowler was physician.

ODONTOLOGICAL SOCIETY.—At the meeting of this Society, held on the 2nd ultimo, a paper was read by J. Walker, M.D., on "Dental Exostosis, its Pathology and Diagnosis." The author commenced by defining what was to be understood by the term "exostosis," and described the various forms of the disease, which were illustrated by diagrams and specimens. He then considered the causes of exostosis, regarding inflammation of the peridental membrane as the first step in this morbid process, leading to an exudation of organizable lymph, which is converted first into fibrous and then into osseous tissue. The causes of inflammation of the peridental membrane were, caries, concussion, looseness of the tooth, and its apparent elongation from rising in the socket, rheumatism, syphilis, gout, and mercuralism. Hence exostosis may affect the fangs of sound as well as of carious teeth, though in a less degree. Speaking of rheumatism, the author expressed his opinion that this was a much more common cause of periostitis around the fangs and in the sockets of the teeth than is generally supposed, and one chief reason for this opinion was the very great relief from pain which he had repeatedly seen follow the use of the iodide of potassium when all other remedies had failed. The last division of the subject was the diagnosis of exostosis from other diseases about the face and mouth, particularly neuralgia and incipient disease of the temporal bone from otitis. He placed the chief distinction in the character of the pain. In exostosis it comes on gradually, is continuous, and often severe. In neuralgia it is intermittent, often severe from the commencement, but the patient has intervals of ease. In otitis the pain is always increased by pressure about the ear, and at length is relieved by the occurrence of a discharge of puriform matter; hearing will also be impaired or confused. The author more completely illustrated this division of the subject by cases occurring in his own and in the practice of others. He showed also an interesting specimen of a monkey's head, with the cancellous structure of the bones of the face highly hypertrophied, without extending to the bones of the skull, from irritation and inflammation arising from a diseased canine tooth, the fang of the tooth being exostosed.

THE PROPOSED MARKET IN LEICESTER-SQUARE.—A highly influential meeting of the inhabitants of this district was held on Wednesday last at the great room in Saville House, Sir De Lacy Evans, M.P., in the chair. A series of resolutions were unanimously passed, pledging the meeting to use every effort in their power to prevent the passage of a Bill now before Parliament, to appropriate the space of the square for the purposes of a general market. The proceedings were of a very animated character.

ST. THOMAS'S HOSPITAL.—At a general Court of the Governors, held on Tuesday, it was resolved—"That the Grand Committee be empowered to continue to negotiate with the governors of Bethlehem Hospital for obtaining the site of that hospital, and to submit proposals to that body either to build for them a new hospital in conformity with the plans and estimates prepared by Mr. Currey, the surveyor of this hospital, at a cost not exceeding £150,000, including the site, or to pay for the site and buildings of Bethlehem the sum of £150,000, subject to the approval of the Court of Chancery, and the sanction of Parliament and of this Court."

LONDON ORPHAN ASYLUM, CLAPTON.—The jubilee commemoration festival of this charity took place on the 15th inst. at the Merchant Taylors'-hall, under the presidency of his Royal Highness the Duke of Cambridge. His Royal Highness was supported by Lord Ebury, Colonel North, M.P., Mr. Alderman Salomons, and by many members of the Court of the Merchant Taylors' Company, and 271 gentlemen sat down to dinner. The managers propose to celebrate the year of jubilee by admitting 100 orphans to the benefits of the charity during the year, and as each child remains for an average period of six years, the extra cost to the charity for maintenance and providing the increased accommodation will amount to nearly £10,000. Towards this object the friends of the institution and the public have subscribed £7600, including £920 from old scholars, and the managers seem sanguine that before long the amount required will be duly forthcoming.

PRESENTATION OF THE FREEDOM OF CULLEN TO DR. EDWARD.—A meeting of the Town Council of Cullen, N.B., was held on Saturday, March 28th, when the freedom of the burgh was presented to Dr. Edward, of Cullen House, in recognition of his public spirit in promoting the interests of the burgh, and for his active support of its literary and scientific institutions. Provost Taylor, after a complimentary address, administered the usual declaration. Dr. Edward briefly replied, and, after partaking of a handsome collation, the Council separated.

ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—This hospital, which was established in 1859, is now about to be removed to Meadowbank House, which has been successfully converted into a large and commodious hospital, capable of containing forty-four patients. It will be ready for the reception of patients early next months.

CALICUT.—Dr. Cleveland, late civil surgeon, Malabar, has succeeded in obtaining the Government sanction for a small pox hospital and a leper hospital at Calicut, the principal civil station of Malabar. Both of these are now in course of erection on an elevated site a mile and a half from the town. He represents the want of a proper lunatic asylum as being much felt. We trust his exertions will be successful in this respect also.

HEALTH OF LONDON DURING THE WEEK ENDING SATURDAY, APRIL 18TH.—The deaths last week were 1437. This number shows a decrease on that of the previous week, which was 1610, but is still unusually high for the middle of April. Small-pox was fatal in 42 cases in the last week of February, but in the present return the number is 62; measles has increased from 36 to 56; scarlatina from 68 to 86; whooping-cough from 54 to 71. The deaths from typhus were 67 last week. Eighteen of the 62 cases of small-pox occurred at 20 years of age and upwards. Last week the births of 1052 boys and 1028 girls, in all 2080 children, were registered in London.

MEDICAL VACANCIES.

Great Northern Hospital—Physician-Accoucheur, vice Dr. Hall Davis; and Surgeon, vice Mr. P. C. Price.
Royal Pimlico Dispensary—Honorary Surgeon-Dentist.

MEDICAL APPOINTMENTS.

A. BUSTALL, L.K.Q.C.P.I., has been elected Medical Officer for the Camolin Dispensary District of the Gorey Union, Co. Wexford, vice James Symes, L.K.Q.C.P.I., appointed to the Gorey Union Workhouse and Fever Hospital.

W. BOWE, M.D., has been appointed Assistant Medical Officer for the Female Department of the Middlesex County Lunatic Asylum, Colney Hatch, vice J. Vivian Faull, M.R.C.S.E., resigned.

J. BRISBANE, M.D., has been elected (after a dispute and litigation extending over several months, and, finally, a fresh election) Parochial Medical Officer for the District of Ladhope, Melrose.

A. D'OYLEY BROOKS, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Grays District of the Henley Union, Oxfordshire, vice G. Dransfield Brown, M.R.C.S.E., resigned.

C. J. BULLOCK, M.D., has been elected Medical Officer of the Congleton District of the Congleton Union, vice J. Bullock, F.R.C.S.E., deceased.

DIONYSIUS DONOVAN, M.B., has been elected Medical Officer and Public Vaccinator for District No. 6 of the Basford Union, Nottinghamshire, vice C. Grant, L.R.C.P.Ed., deceased.

J. FOWLER, M.R.C.S.E., has been appointed House-Surgeon to the Clayton Hospital and Wakefield General Dispensary, vice Herring, resigned.

J. HAYDOCK GIBSON, M.D., has been appointed Physician to the York Dispensary, vice T. Simpson, M.D., deceased.

C. VERNON HITCHINS, M.R.C.S.E., has been elected Medical Officer for District No. 3 (the Parish of Weston-super-Mare) of the Axbridge Union, Somersetshire, vice E. Martin, M.R.C.S.E., resigned.

T. M. KENDALL, F.R.C.S.E., has been appointed Medical Attendant to their Royal Highnesses the Prince and Princess of Wales when residing at Sandringham Hall.

J. SLADEN KNIGHT, M.D., has been appointed Consulting Physician to St. Bartholomew's Hospital, Chatham.

J. H. LAKIN, M.B., has been elected Medical Officer and Public Vaccinator for the Sutton Coldfield District of the Aston Union, Warwickshire, vice H. S. Chavasse, M.R.C.S.E., deceased.

J. LANGSTON, M.R.C.S.E., has been appointed Consulting Surgeon to St. Bartholomew's Hospital, Chatham.

J. LIDDERDALE, M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Kintbury District of the Hungerford Union, Berks, vice J. Lidderdale, M.D., resigned from ill-health.

T. J. MORRISSY, M.D., has been elected Coroner for Tipperary.

J. C. SAVERY, M.R.C.S.E., has been appointed Public Vaccinator for the 2nd District of the Hastings Union, vice J. T. Pentall, M.R.C.S.E., resigned.

W. WALKER, L.R.C.P.Ed., formerly Honorary Surgeon, has been appointed paid Medical Officer to the Metropolitan Benefit Societies' Asylum, Ball's-pond-road, Kingsland-gate.

F. W. WARRINGTON, M.D., has been appointed Public Vaccinator for the Township of Congleton, vice J. Bullock, F.R.C.S.E., deceased.

MILITARY AND NAVAL MEDICAL APPOINTMENTS.

R. C. ANDERSON, M.D., Surgeon Major 13th Hussars, has been appointed Staff Surgeon-Major, vice Rutherford, who has exchanged.

T. C. BRADY, M.R.C.S.E., Staff Surgeon Army, has been appointed Surgeon to the 8th Foot, vice Irvine, appointed to the Staff.

E. BROCK M.R.C.S.E., Staff Assist.-Surg. Madras Service, has been appointed to do duty with the Royal Artillery at St. Thomas's Mount.

E. POULTER BURROWS, M.R.C.S.E., Assist.-Surg. Bombay Service, has been attached to the 16th Native Infantry from the date of the breaking up of the Camp of his Excellency the Commander-in-Chief.

W. E. CATES, M.R.C.S.E., Assist.-Surg. Bombay Service, has passed the required examination in Hindustanee (Staff test).

Assist.-Surg. COCKELL, Bombay Service, has been transferred from general duty Mhow Division, to general duty Poona Division.

F. W. A. DE FABECK, Assist. Surg. Bengal Service, has been appointed to the medical charge of the 5th Battery 24th Brigade Royal Artillery.

W. DOYLE, M.D., Assist.-Surg. Madras Service, has been appointed to act as Civil Surgeon of Cuddalore, during the absence on leave of Assist.-Surg. Busteed, or until further orders.

J. EWART, M.D., officiating Professor, has been appointed Professor of Anatomy, Physiology, Comparative Anatomy, and Zoology in the Medical College, Calcutta, from the date of the death of Dr. Crozier.

J. FOULLERTON, Assist.-Surg. Bombay Service, has been placed on general duty Sindh Division.

A. FOX, Assist.-Surg. Bombay Service, has been posted to the 13th Native Infantry, vice Seaward.

A. H. FRASER, M.D., Assist.-Surg. 88th Regiment, has been placed in charge of the duties of Civil Assist.-Surgeon at Shahjehanpore, in addition to his military duties, as a temporary arrangement.

O. W. GEORGE, M.D., Assist.-Surg. 1st. Regt. of Life Guards, has been promoted to Surgeon, vice Surgeon-Major J. Cockburn, retired upon full-pay.

A. GIBB, M.D., Surg.-Major from a Depôt Battalion, has been appointed Staff Surgeon-Major, vice Brady, appointed to the 8th Foot.

G. GORDON, Surg. R.N. May 10th, 1856, has been appointed to the "Leander."

G. M. GOWAN, M.D., Assist.-Surg. Bengal Service, has been posted to the 35th Native Infantry.

T. HASTINGS, Surgeon Indian Service, having completed twenty years' actual service, has been promoted to Surgeon-Major from the date specified under the Royal Warrant of Jan. 13th, 1860, and the General Order by the Governor-General No. 10 A, dated Dec. 20th, 1860.

J. IRVINE, M.D., Surgeon from the 8th Foot, has been appointed Staff Surg., vice Harding, appointed to the 10th Foot.

Births, Marriages, and Deaths.

BIRTHS.

On the 5th of Feb., at Theyat-Myo, British Burmah, the wife of Dr. Sparrow, Surgeon 3rd Batt. 60th Royal Rifles, of a daughter.

On the 19th of Feb., at Port Louis, Mauritius, the wife of Dr. A. R. Darrant, of a son.

On the 7th ult., at Ajmere, the wife of Dr. Murray, Civil Surgeon Madras Service, of a daughter.

On the 20th ult., at Longton, Staffordshire, the wife of Dr. Allen, of a daughter.

On the 29th ult., at Hamilton-square, Birkenhead, the wife of R. L. Hudson, M.R.C.S.E., of a daughter.

On the 29th ult., at Beech-grove, Ballyvourney, Co. Cork, the wife of W. H. Kent, M.D., of a son.

On the 30th ult., at St. Day, Cornwall, the wife of G. Michell, M.R.C.S.E., of a daughter.

On the 30th ult., at Durham, the wife of Dr. Maltby, of a son.

On the 30th ult., at London-road, Croydon, the wife of S. Picken, M.R.C.S.E., of a daughter.

On the 31st ult., at Norfolk-square, the wife of Dr. Mapleton, of a son.

On the 6th inst., at Hanley, Staffordshire, the wife of R. Hall Bakewell, M.D., of a daughter.

On the 9th inst., the wife of A. H. Nowell, M.R.C.S.E., of Cornwall Villas, Westbourne-park, Bayswater, of a daughter.

On the 10th inst., at Calthorpe-place, Edgbaston, the wife of Dr. J. Gibbs Blake, of a son.

On the 10th inst., at Cheltenham, the wife of Dr. A. Campbell, late of the Bengal Medical Service, of a daughter.

On the 10th inst., at Fitzroy-square, the wife Henry Madge, M.D., of a daughter.

On the 11th inst., at George-street, Glasgow, the wife of Thomas Alexander, M.D., of a son.

On the 12th inst., at St. Paul's-road, Highbury, the wife of Geo. Thos. Keele, M.R.C.S.E., of a daughter.

On the 12th inst., at Great Marlow, the wife of W. J. Shone, M.R.C.S.E., of a daughter.

On the 13th inst., at Dartford, Kent, the wife of Egbert Charlton, M.D., of a daughter.

On the 12th inst., at St. Mary's, Gillingham, Kent, the wife of Dr. Burns, R.N., of a daughter.

On the 14th inst., at Thornhill-square, Barnsbury, the wife of Horatio Sillifant, M.D., prematurely of a son—still-born.

On the 14th inst., at Flora-place, Plymouth, the wife of W. B. Stephens, M.R.C.S.E., of a daughter.

On the 14th inst., at Blackhall-street, Waterford, the wife of Thomas Torney, M.D., of a son.

On the 15th inst., at Crawley, Sussex, the wife of T. H. Martin, M.R.C.S.E., of a daughter.

On the 15th inst., the wife of R. C. Smith, M.D., of Manchester, of a son.

On the 16th inst., at Admiralty House, Deal, the wife of Dr. F. T. Hulke, of a daughter.

On the 18th inst., at Robert-street, Hampstead-road, the wife of J. C. Day, M.R.C.S.E., of a daughter.

On the 19th inst., at Diss, Norfolk, the wife of W. Stewart, M.D., of a daughter.

MARRIAGES.

On the 16th inst., at Bilton, Thomas Bilton, M.D., of Driffield, to Sarah Anne, eldest daughter of the late Benj. Thomlinson, Esq., of Tockwith, near York.

On the 16th inst., at Bourton-on-the-Water, J. C. Thorowgood, M.D., of Finsbury-circus and Blackheath, to Hester Mary, only child of the late R. Ashwin, Esq., of Bourton-on-the-Water.

On the 18th inst., at Clerkenwell, R. T. Warn, M.R.C.S.E., of Kentish-town, to Emma Lucretia, eldest daughter of J. Hackney, M.R.C.S.E., of Myddelton-square.

DEATHS.

On the 14th of Jan., at Saigon, China, Henry Waterman, M.R.C.S.E., aged 45.

On the 10th of Feb., J. Greer Cuppage, M.R.C.S.E., Staff Assist.-Surg. Army half-pay.

On the 24th of Feb., at Kamptee, Colin Paterson, M.D., Acting Inspector-General of Hospitals to the Nagpore Force.

On the 27th of Dec., at Sydney, New South Wales, William Houston, M.D., formerly of Ballymena, Co. Antrim aged 45.

On the 2nd inst., at Rodney-street, Liverpool, J. M. Banner, F.R.C.S.

On the 9th inst., at Portland, Dorsetshire, R. Forester Wells, F.R.C.S.E., late of Artillery-place, Finsbury-square, aged 47.

On the 10th inst., Benj. Beeley, M.R.C.S.E., of Holmfirth, Yorkshire, aged 68.

On the 10th inst., at George-square, Edinburgh, Alex. Ziegler, M.D.

On the 11th inst., at the Abbey, Upholland, Lancashire, Helena Mary, youngest daughter of S. Molyneux, M.R.C.S.E., aged 2 years and 11 months.

On the 11th inst., at North Kent-terrace, Woolwich, Wm. Woods Harding, M.R.C.S.E., Surgeon 14th Kent Artillery Volunteers, aged 32.

On the 11th inst., J. Birtwhistle, F.R.C.S.E., of Primrose Cottage, Rosebank-road, Old Ford, aged 63.

On the 11th inst., at Durrington, near Worthing, Silas Stedman, M.R.C.S.E., aged 66.

On the 14th inst., at Truro, J. Bray Butcher, M.R.C.S.E., aged 34.

On the 14th inst., at Chester-street, Liverpool, J. J. P. Geiston, L.F.P. & S. Glasgow.

On the 16th inst., at St. Martin's-lane, J. Nathan Bainbridge, M.D., aged 63.

QUARTERLY NAVAL OBITUARY.

J. Campbell, M.D., Surgeon Feb. 21st. 1825 (on the retired list).
J. Coulter, M.D., Surgeon Sept. 29th, 1825.
W. Dickson, Assistant-Surgeon March 24th, 1812 (on the retired list).
W. Doak, Surgeon Dec. 29th, 1837 (ditto).
G. H. Jones, M.D., Surgeon Jan. 23rd, 1812 (ditto).
F. Logan, Surgeon May 31st, 1811 (ditto).
R. Radliffe, Assistant-Surgeon Aug. 30th, 1832.
A. W. Roche, M.D., Surgeon Feb. 27th, 1813 (on the retired list).
W. H. Woods, Surgeon Aug. 10th, 1860.

BOOKS ETC. RECEIVED.

Dr. Turner on Cellular Pathology.
Dr. Barker on Malaria and Miasmata.
Dr. Harley on Jaundice.
Statistical Tables of the Patients treated in Guy's Hospital during 1862.
The Pharmacopœias of Thirteen of the London Hospitals. By MR. P. Squire.

Medical Diary of the Week.

MONDAY, APRIL 27	LOCK HOSPITAL, Dean-street, Soho.—Clinical Demonstrations and Operations, 1 P.M. ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM.—Operations, 1½ P.M. METROPOLITAN FREE HOSPITAL. — Operations, 2 P.M. MEDICAL SOCIETY OF LONDON.—8 P.M. Special General Meeting.—8½ P.M. Clinical Discussion.
TUESDAY, APRIL 28	GUY'S HOSPITAL.—Operations, 1½ P.M. WESTMINSTER HOSPITAL.—Operations, 2 P.M. ROYAL INSTITUTION.—3 P.M. Prof. Tyndall, "On Sound." ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON — 8½ P.M. Dr. A. T. H. Waters, of Liverpool, "On a Remarkable Case of Injury of the Head." — Dr. T. K. Chambers, "On the Therapeutics of Continued Fever." — Dr. H. Weber, "On the Pathology of Crura Cerebri."
WEDNESDAY, APRIL 29	MIDDLESEX HOSPITAL.—Operations, 1 P.M. ST. MARY'S HOSPITAL.—Operations, 1 P.M. UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M.
THURSDAY, APRIL 30	ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 1 P.M. LONDON HOSPITAL.—Operations, 1½ P.M. ROYAL FREE HOSPITAL.—Operations, 1½ P.M. GREAT NORTHERN HOSPITAL, KING'S CROSS.—Operations, 2 P.M. LONDON SURGICAL HOME.—Operations, 2 P.M. WEST LONDON HOSPITAL.—Operations, 2 P.M. ROYAL ORTHOPÆDIC HOSPITAL. — Operations, 2 P.M. ROYAL INSTITUTION. — 3 P.M. Professor Austed, "On Geology."
FRIDAY, MAY 1	WESTMINSTER OPHTHALMIC HOSPITAL. — Operations, 1½ P.M. ROYAL INSTITUTION. — 2 P.M. Annual Meeting of the Members.—8 P.M. Mr. John Leighton, "On Japanese Art." WESTERN MEDICAL AND SURGICAL SOCIETY OF LONDON.—8 P.M. Annual Meeting.
SATURDAY, MAY 2	ST. THOMAS'S HOSPITAL.—Operations, 1 P.M. ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M. KING'S COLLEGE HOSPITAL.—Operations, 1½ P.M. CHARING-CROSS HOSPITAL.—Operations, 2 P.M. ROYAL INSTITUTION. — 3 P.M. Prof MAX MÜLLER, "On Language."

To Correspondents.

F.R.C.S.—There can be no question as to the rule of conduct which should be observed in such a case. When a gentleman acts as the *locum tenens* of another, he is bound by every principle of etiquette and honour to protect the interest of his professional brother. This is particularly the case when his friend is unavoidably absent upon urgent duties. To supersede him would, under any circumstances, subject the offender to severe reprehension. Subject as we too often are to the caprice and injustice of the public, that we should be true to each other becomes a paramount duty. Indeed it is the most politic course we can pursue. No man, whatever his position and profession may be, will eventually derive any benefit from what may appear to be a temporary advantage obtained by departing from the strictest path of honour. We regard the case presented to us as one peculiarly open to censure, and it is difficult to believe that if the "junior" had acted consistently, his senior would have been subjected to such manifest injustice. The duty of the junior was to retire from the case altogether, in preference to allowing his brother practitioner to be dismissed without the slightest possible reason.

Professor Huxley's Sixth Lecture on the Vertebrate Skeleton will appear next week.

A Sceptic should remember that more than half of the persons who contract small-pox after so-called vaccination have been but *imperfectly* vaccinated. A mere glance at the scars will show that to be the case. If the power of protection wore itself out too, how is it that so many people continue to be saved from variola?

W. Webb, M.D., F.R.C.S. Edin.—The charges are exceedingly moderate, and such as no gentleman should hesitate to admit.

Dr Enquirer (Cadbury) will send his name, he shall receive a private note.

THE DIETARY OF THE AGRICULTURAL POPULATION.

To the Editor of THE LANCET.

SIR,—Will you permit me to ask my professional brethren living in agricultural districts to favour me with a statement as to any locality with which they may be acquainted where the dietary is *very* poor, and also that of any other class of persons who habitually live on a very low dietary?

I am, Sir, your very obedient servant,

16, Queen Anne-street, April, 1863. EDWARD SMITH, M.D., F.R.S.

Medical Attendance on Police Cases.—By the police regulations, when a medical practitioner is called by a police constable to attend any case, he is entitled to 3*s.* 6*d.* for a day visit, and 7*s.* 6*d.* for attendance during the night. Until lately these fees were forwarded to the surgeon by the police authorities. A different course has been recently adopted, and the surgeon, wherever located, must now call at or send to the Metropolitan Police Office, Whitehall-place, for the ridiculously little fee which is due to him. So that if an important service has been rendered at Hounslow, Brentford, or Blackwall, the unfortunate doctor, before he can receive his 3*s.* 6*d.*, is himself compelled to attend or send a messenger several miles. Surely this is an unnecessary and vexatious regulation; unnecessary, as the authorities could easily send the fee to the claimant; vexatious, as it involves an amount of trouble and expense on the part of the claimant which is totally needless.

Nemo.—Thanks. The paragraph is not suitable for our columns.

TWIN BIRTH WITH PLACENTA PRÆVIA.

To the Editor of THE LANCET.

SIR,—In Dr. Ellis's rejoinder of April 4th, there appears a tone of umbrage, as though criticism on his published case had been unnecessary. Had I not thought its publication was intended to elicit opinions, I would have re-raised from making any observations upon it; but in order to remove even the suspicion of blame, I related a fatal case of my own early days, resulting from what I believe the same cause—artificial delivery under a state of uterine inertia. As sea captains are expected, for the benefit of others, to note down dangerous points of navigation, surely, as experienced men in midwifery, we could express our mutual views without offence; not for the purpose of enlightening each other, but for the guidance of juniors in those perplexing cases of emergency in which the life of the patient depends on the decision of the accoucheur quite as much as that of a criminal tried for a capital offence does on the decision of a jury. Our great responsibility, therefore, justifies such freedom of comment as shall place a disputed point in every possible position for promoting future successful treatment; and I heartily join in the gratulations which have been presented to Dr. Ellis for his professional courage in submitting the subject to inquiry. Some of the contributors to the discussion have diverged from the point at issue, which is, whether the uterus *remaining in a state of inertia* after the removal of a presenting placenta should be artificially emptied? I maintain the negative, fearing, as I have stated, the sudden death that may ensue from revulsive shock; or, as Dr. Ellis infers may have happened in his own case, admission of air into the veins, which I apprehend occurs through the absence of uterine contraction leaving the veins patulous: either case supports my argument. Though an advertising writer has found fault with my maxim, that malposition of the fœtus, deformity of pelvis, or convulsion (during inertia) alone justify forcible delivery, I maintain my proposition; while I admit that *no good rule is so rigid as to be inflexible*, and that exceptional reasons may arise for manual interference, such as reflected excitement on the heart or some other enfeebled organ threatening severe syncope, or upon some inflamed structure endangering life. In such cases, while restorative means and ergot are being used, partial or complete delivery may have to be effected. Some of the fatal cases of post-partum hæmorrhage, it is well known, occur from too rapid delivery, and after the uterus has contracted well, and the accoucheur has left the house, to be recalled with great alarm finding the uterus flaccid, and the patient collapsed. These deaths are probably owing, as Dr. Ellis suggested in his own case, more to the admission of air into the patulous veins than to excessive hæmorrhage; and it is impossible to say how much revulsive shock, such as attends surgical operations, may be an exciting cause.

Some years ago, before it was usual to extract a presenting placenta, and when perforation, or the forcible removal of a portion of it by the hand in its introduction for turning, or the use of the tampon, was the practice, I met with a case at full time in which the placenta was situated centrally over the os, which was open an inch, with considerable hæmorrhage. I used the tampon firmly, and left the patient for an hour, the hæmorrhage being stopped. During my absence the tampon had excited so much uterine action as to cause the simultaneous expulsion of the placenta and a living child.* A neighbouring practitioner being present, scolded loudly at the use of the tampon, and, to my satisfaction, named the subject at the Medical Society. His idea was that the uterus should have been forcibly entered, and the fœtus ejected, in compliance with standard authority, and in illustration brought forward a case in which he had so acted, fatally to mother and child.

It might be expected that any attempted reversal of the fiat, "In pain shall she bring forth," would be fraught with danger. Of course *expulsive* power is signified, for which there is no proper equivalent.

I remain, Sir, yours truly,

Liverpool, April, 1863. JOHN TAYLOR, M.R.C.S.

* Rapid recovery and subsequent pregnancies ensued.

Mr. Alfred Pierrepont.—Tinctures made with methylated spirit are much inferior to those prepared with pure spirit. In fact, the use of methylated spirit in the preparation of articles for internal administration ought to be strictly prohibited. There is good reason to believe that medicines made therewith are sometimes positively deleterious.

SANITARY DEFECTS IN SHIPS OF WAR.

To the Editor of THE LANCET.

SIR,—In my last note on this subject I stated that the Admiralty had at length been aroused to the paramount importance of a proper system of ventilation. With this view various plans are now being tried. In *The Times* of the 13th inst. it is stated that the ventilation of the iron-cased ship *Caledonia* on a new principle is now occupying the attention of Mr. Turner, the builder at Woolwich, and that a powerful force-pump will expel the vitiated atmosphere, and supply every compartment with pure air.

The rule which imposes silence on naval surgeons on full pay prevents your readers from receiving much interesting and valuable information on these and other matters of vital importance; but there can be no doubt that great good has resulted, both as regards the navy and merchant service, from the facts which have from time to time been recorded, and from the discussions which have taken place in the House of Commons and the public journals.

I am, Sir, your obedient servant,

Kidderminster, April, 1863. JOHN ROSE, M.D., Surgeon R.N.

Student.—The true function of the spleen is not yet determined, nor is that of the thymus. A probability is not a demonstration. According to the recent experiments of Schiff, the spleen co-operates with the pancreas in the digestion of albuminous bodies. After the extirpation of the spleen, the pancreatic secretion cannot any longer digest such substances. Hence the reason why animals from whom the spleen has been extracted require a larger amount of food than before.

A Subscriber.—It is doubtful whether he could recover for medicines supplied, as it has not yet been decided how far the Apothecaries' Act is still in force.

VARIOLA.

To the Editor of THE LANCET.

SIR,—I think it my duty to bring before the profession a suggestion I made in the Edinburgh Infirmary during the past winter on the eclectic treatment of variola. I suggested that a solution of india-rubber in chloroform should be made, and painted over the faces of small-pox patients when the eruption is becoming maturated. It has been tried, and found effectually to prevent the formation of scars. The instantaneous evaporation of the chloroform leaves the caoutchouc as a thin, dry, impervious, and elastic film, which prevents the access of air, and the existence of all consequent "pitting" and itching.

The solution is very easily made, it being only necessary to place small pieces of caoutchouc in a bottle, and to pour chloroform on them. The chloroform holds a certain quantity of the india-rubber in solution. The solution so made is painted once or twice over the face (and neck in females) with a brush. If the coating should become separated anywhere from the skin, another should be applied over it; but this is seldom necessary before the lapse of ten or fourteen days, by which time a reapplication will rarely be required. After the desquamation of the crusts and film of india-rubber, some vascularity of the parts is left, but speedily disappears.

I may add I have treated cases of scabies with the above-described solution, and found them radically cured on the separation of the caoutchouc film. I am now trying it in other cutaneous diseases, which appear to be mitigated or cured by it; but I cannot yet speak with certainty as to its utility. I intend to make the results known as soon as I can.

Other solvents for the caoutchouc have been tried; but chloroform has been found to be the best. Your obedient servant,

Pall-mall, April, 1863. STANLEY HAYNES, L.M. Edin.

Tyro in Suspense.—Whether the proposal emanating from the Middlesex Hospital School to open the winter session somewhat later than has hitherto been the case will be adopted, we cannot say.

M.D., M.R.C.S., L.M., L.S.A.—The proceeding is commendable.

J. P.—Turpentine, in from twenty minims to half-drachm doses, may be tried as an hæmostatic. We believe it to be in many cases the best remedy.

THE MEDICAL PROFESSION AND LIFE ASSURANCE OFFICES.

To the Editor of THE LANCET.

SIR,—In January, 1862, I wrote a letter to your valuable journal, enclosing a form, by which an old-established and respectable insurance office strove to make the medical adviser of the insurer of his just fee. I now forward you another brilliant example of a different mode of obtaining useful and necessary knowledge under false pretences:—

"Consolidated Life Assurance Company,
"45, Cheapside, London, April 9th, 1863.

"SIR,—A proposal having been made to this Company to effect an assurance on the life of Mr. ——, and he having made reference to you for information as to the general and present state of his health, I have to request that you will (*for his benefit*), at your earliest convenience, write answers to the annexed queries, and transmit the same according to the address on the back hereof.

"Whatever information you may be pleased to communicate will be considered *strictly confidential*.

"I am, Sir, your most obedient servant,

"To S. D. GOSS, Esq., M.D." "D. MACGILLIVRAY, Actuary and Secretary.

To this application I decidedly declined to accede, unless the usual fee of one guinea was promised or sent. Four days have elapsed, and I have received no answer. I therefore hand the office over to your tender care, trusting that this communication will have the effect of bringing it to its senses, as it did in the case before alluded to.

I am, Sir, your faithful servant,
S. DAY GOSS, M.D.

Newington-place, Kennington-park, April, 1863.

P.S.—I may add that my former communication had the effect of compelling another and I believe one of the oldest offices in London (to whose unjust demand I likewise declined to accede) to rescind its existing rule, and to allow the medical referee his usual fee.

The Lancashire Distress Medical Fund.—We have received from A. W. Baillie, Esq., Bengal Medical Service, Julpigoree, £3 2s.; and from E. P., a Friend of the Poor, 21s., in aid of the above fund.

An Intending Shareholder.—We are not aware whether the medical staff has been remodeled. Why a *special* physician or surgeon should be appointed to treat the insane for *general* diseases, we are at a loss to conceive.

MR. PRATT'S LITHOTRITY FORCEPS.

To the Editor of THE LANCET.

SIR,—Allow me to point out the difference actually existing between the instrument made by Mr. J. Ferguson and that described by you. I have had an opportunity of seeing the former. It is about eight inches in length, with a long curve, blades and stem of the same circumference, and evidently intended for the removal of foreign bodies from the urethra. The instrument made by me for Mr. Ferguson, of King's College Hospital, is *eleven* inches long, with a short curve, bulbous extremity, having the stem much smaller, to allow of free rotation in the urethra. It is intended to pass *into the bladder*, acting as a sound to explore and find the stone or fragment; then, by opening the blades, grasp and extract it, without the necessity of using another instrument.

I remain, Sir, your obedient servant,
Oxford-street, April, 1863. J. F. PRATT.

Pharmaceuticus.—Our correspondent should consult "A Report upon some of the Colonial Medicinal Contributions to the National Exhibition," A.D. 1862, by Charles Hunter. It can be obtained from Mr. Churchill.

A. B.—It is unusual, but not illegal.

A Three Years' Subscriber.—He could recover for professional attendance. It is doubtful, however, whether he could for medicines supplied.

INCOME-TAX.

To the Editor of THE LANCET.

SIR,—Before I had scarcely succeeded to a nucleus of private practice, a sum is demanded of me for income-tax, without previously having received any form to make a return; and, upon inquiry, I am told I am assessed at the same rate as my predecessor was. Surely this is an act of gross injustice towards a new beginner; and if an income-tax must be paid upon the receipts of the first part of the year, it would only be fair that an opportunity should be given me conscientiously to state the amount of the receipts; and I cannot think it can be legal to proceed in any other way, and certainly most unfair for one man to be assessed at another's income.

I should feel greatly obliged by your opinion or that of any of your readers; and if the tax has been illegally exacted, in what manner ought I to proceed with the surveyor to get it returned?

I am, Sir, your obedient servant,
April, 1863. JUSTITIA.

*** Our correspondent should give written notice of appeal.—ED. L.

An Anxious Student must shut up his books, and examine patients, if he wishes to obtain a practical knowledge of cutaneous diseases. They are the least "bookish" of all maladies.

L. R.—Secondary pleurisy will occasionally occur after amputation at the shoulder-joint, and prove fatal.

T. T.—We believe that trial is now being made of bromine in some of the military hospitals of America as a prophylactic and agent in the treatment of erysipelas, hospital gangrene, and diphtheria.

UNIVERSITY OF ST. ANDREWS.

To the Editor of THE LANCET.

SIR,—Can you afford me a small space to remind those gentlemen who intend graduating at St. Andrews at the end of this month, of the new regulations with regard to academic costume lately adopted by the Senate? Graduates not wishing to purchase, may hire the costume of Brown, the robe-maker to the University. I am, Sir, yours, &c.,
April, 1863. M.D. ST. ANDREWS.

A Patient.—The mincing machines made by Mr. Nye are ingenious, and very suitable for invalids, aged persons, or sufferers from weak digestion.

Vaccinatio.—1. A certificate from a public vaccinator would be sufficient.—2. It has not yet been announced.

Justice.—It would be unfair to criticize the evidence. The statement is evidently a misprint. Instead of being "born," it should have been "dead."

COTTAGE HOSPITALS.

To the Editor of THE LANCET.

SIR,—Will you or some of your numerous correspondents kindly let me know the particulars, expenses, &c., of the working of some of the country cottage hospitals, and oblige, Yours faithfully,
April, 1863. INQUIRER.

OWING to the sudden pressure on our columns this week, the reports of the Medical and Chirurgical Society and of the meeting of the Metropolitan Association of Medical Officers of Health, with the discussion on Professor Gamgee's paper; the letter of Dr. Braxton Hicks; New Inventions; and other articles in type, are unavoidably postponed.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. T. K. Chambers; Mr. Savory; Dr. Brinton; Dr. Grailly Hewitt; Mr. Henry Thompson; Prof. Longmore; Mr. Follett; Mr. Howard, (with enclosure;) Mr. Duckworth, (with enclosure;) Mr. G. Taylor, Derby, (with enclosure;) Mr. Crofts, (with enclosure;) Mr. Barwell; Mr. Harding, Woolwich; Dr. R. C. Smith; Dr. Lowe, King's Lynn; Mr. Macnair, Leith; Mr. Granville; Dr. Gibbon; Mr. W. E. Adams; Mr. Clements, Brixham, (with enclosure;) Mrs. Wells, Portland, (with enclosure;) Mr. Nunn; Mr. Douglas, Port William; Dr. Ross, Kidderminster; Mr. Jones, Eskimston, (with enclosure;) Mr. J. Macdonald, (with enclosure;) Dr. Ramsbotham, Edinburgh; Mr. J. Campbell, Clachan, (with enclosure;) Dr. Cameron; Mr. Stookes, Liverpool; Mr. S. Jackson, Manchester, (with enclosure;) Mr. Metcalfe; Dr. E. Smith; Dr. Mulreany; Dr. Bolton; Mr. Godrich; Mr. Harland; Dr. Reed; Mr. Chitty, Mere; Dr. Smart, Edinburgh; Mr. Dean, Hyde, (with enclosure;) Mr. Haynes; Mr. E. Parsons, (with enclosure;) Mr. Tite, (with enclosure;) Mr. Robson; Mr. Griffin; Mr. Harding; Dr. Segar, Southport; Dr. Struthers, Edinburgh; Mr. Gill, Ilkeston, (with enclosure;) Dr. Barron, (with enclosure;) Mr. Henson, Manchester, (with enclosure;) Mrs. Burncastle; Mr. James, Hereford, (with enclosure;) Mr. D. Iles, Fairford; Dr. P. H. Williams; Mr. Lister, Keyngham, (with enclosure;) Mr. Griffiths, Church Stretton; Mr. Holder, (with enclosure;) Mr. Pike, Exeter, (with enclosure;) Mr. Trollope, St. Leonards; Mr. Primrose; Mr. Rogers; Mr. A. Pierrepont; Mr. Gibb, Haughton (with enclosure;) Dr. Webb; Mr. Martin, Crawley; Dr. M'Laskey, Rothwell; Coventry Dispensary, (with enclosure;) Chester; R.A. and Embryo M.D.; Caroo-Rivulet; A Three Years' Subscriber; A. B.; Justitia; Royal Navy; S.; Cymro; A Constant Subscriber; Assistant-Surgeon, R.N.; Medicus, (with enclosure;) Royal College of Physicians; A Poor-law Public Vaccinator; M.D. St. Andrews; &c. &c.

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